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ERRATA.

2nd page, 19th line from top, 4th word, for "tucket" read "tucked."
3rd page, 8th line from foot, 4th word, for "immindful" read "unmindful."
6th page, 2nd line from top, last word, for "without" read "with."
6th page, last line 2nd word, for "are" read "a."
8th page, 15th line from top, 4th word, for "movements" read "moments."
10th page, 9th line from top, 10th word, for "pruning" read "preening."
16th page, 12th line from top, 8th word, for "indentify" read "identify."
18th page, 1st line from foot, 9th word, for "Pihated" read "Pileated."
19th page, 16th line from top, last word, for "donated" read "designated."
20th page, 1st line from top, last word, for "envolved" read "evolved."
22d page, 3rd line from top, 2d word, "a" should be omitted.
22nd page, 2rd line from top, 2nd word, for "*Bittem*" read "*Bittern.*"
24th page, 10th line from foot, 7th word, for "*elox*" read "*velox.*"
25th page, 6th line from top, 1st word, for "persons" read "person."
25th page, 16th line from top, 9th word, for "authorzing" "authorizing,"
26th page, 7th line from top, 6th word, for "this" read "the."
27th page, 3rd line from top, 2nd word, for "trouble" read "truth."
30th page, 1st line from top, 3rd word, for "OCCURENCE" read "OCCURRENCE."
30th page, 18th line from top, 5th word, for "*trolodytes*" read "*troglodytes.*"
30th page, 19th line from top, last word, for "*ruficappilla*" read "*ruficapilla.*"
38th page, 6th line from top, 6th word, for "Praire" read "Prairie."
38th page, 4th line from top, 5th word, for "diflerent" read "different."

41st page, 2nd line from top, 3d word, for "Worm-earter" read "Worm-eater."
44th page, 2nd line from foot, 6th to 8th words, for "*peer-ny*" etc., read *peer-ry*," etc.
45th page, 10th line from foot, 5th and 6th word, for "*coccothraustus vespertinus*" read "*Coccothraustes vespertina.*"
45th page, 11th line from foot, 5th word, for "evening" read "Evening."
46th page, 7th line from top, 3rd word, for "*vivalis*" read "*nivalis.*"
47th page, 10th line from top, 1st word, for "Popular" read "Poplar."
48th page, 8th line from foot, last word, for "suppected" "suspected."
54th page, 12th line from top, 7th word, for "through" read "thorough."
56th page, 9th line from top, 2nd word, for "record" read "records."
56th page, 8th line from foot, 3rd word, for "Lodd" read "Ladd."
60th page, 12th line 2nd column, for "Sparrow" read "Swallow"
68th page, 4th line from foot, 3rd word, for "Thush" read "Thrush."
68th page, 2nd line from foot, last word, for "spieces" read "species."
73rd page, 5th line from top, 2nd word, for "stretch" read "sketch."
74th page, 10th line from top 3rd word, for "Skite" read "Kite."
77th page, 12th line from foot, 1st word, for "frange" read "range."
87th page, 2nd line from top, 9th word, for "prospective" read "perspective."
94th page, 12th line from foot, 1st word, for "**Cepar**" read "**Cedar.**"

THE ROUGH-WINGS OF THE HERCULES.

The Hercules with her guns and war-paint taken off, was our station tug at Port Royal. A powerful old sea-going tug thoroughly refitted and just what we needed. I was on the Nantucket then and came astern one morning in the light skiff with the regular report. Forward on the Hercules was old Johnny Greek, who ordered me to moor my boat further aft so as not to disturb his birds. He didn't seem to be as crusty as usual, so I asked to see his birds, supposing he was trying to raise some young Mockingbirds. I was much amused when he pointed out a pair of Rough-winged Swallows that were frollicking around above the dry dock that was just ahead of us. Johnny stoutly asserted his claim to them, and in a minute or two one had procured a straw and with much chatter and congratulation from its mate, flew with it right into the port hawse-pipe of the Hercules. This was something new to me. I had always seen the Rough-wings burrow in sand banks, though I had read of their nesting under bridges and in sheltered crannies. The old Greek sailor I found was protecting them well. He had the deck plug of the hawse-pipe neatly battened down and would not let any of the crew handle the hose forward but himself when they washed down decks. He was worried about their feed he told me. Said they wouldn't eat potatoes, or eggs or rice, and he was afraid they would go somewhere else if he didn't furnish them with the proper dainties. I explained the matter as well as I could to him, and every trip after we had little consultations and he gave me all the news about his pets and their smart doings. They seemed to occupy a very big place in his old heart. One day he called me in to back a letter to his mother, which I used to do for him every pay day be-

cause I could write her name in Greek, and he confided to me that he had told her about the little "Rough birds."

Three times a week the tug went up to Beaufort for groceries, etc., and the little birds seemed to think it was a pleasure trip for their special enjoyment. In town they tried to make friends with the Sparrows about the wharf, and came near having a pitched battle over some building material one day, but their watchful guardian scattered the contestants and brought away half a bucket full of rubbish for them to select from in peace.

Then there were eggs at last. When John tried to peep at them, the little hen "bit him" and he had the finger to show for it too. She was "scrabbich too much" he said. Trouble was nearby. A big derelict was drifting around somewhere about Cape Romain and several ships had narrowly missed disaster by it. The Hercules was ordered to put to sea, find it and blow it up. Away she went bright and early one morning, and was gone five days. When she came back a very dragged looking little Swallow was on the truck above the pennant. The other, Johnny had tucket away somewhere below. When the first big sea struck her down on the bar, Johnny had pulled out the plug and rescued the little mother, but her eggs and nest were past his aid. A day or two they mourned around, but soon set up housekeeping again in the same place. All went well and a young brood tried their wings from the rail of the Hercules but never came back. The same little pair, much more sober and sedate now and with much less chatter than in their younger days, at once began to renovate their old quarters. But the Hercules was ordered to Norfolk with all her crew. When she started off gayly that morning with much saluting of whistles and all her gay bunting flying, do you suppose those wise little birds went with her? No indeed. I became Johnny Greek's residuary legatee. For they came on board the Nantucket, made a careful survey and then took up their residence in one of the peep holes of the conning tower. When the Nantucket in turn was taken away, they were at some fashionable winter resort in the tropics. I look for them back this Spring. The Accomac has just as good hawse-pipes as those they liked so well on the Hercules.

W. J. HOXIE, *Beaufort, S. C.*

BACHMAN'S SPARROW, IN DeKALB COUNTY, GEORGIA.

On the morning of June 1st, 1899, while tramping over an old field, a short distance from my home, my attention was attracted by the song of a bird, the peculiar notes of which I had never heard before.

It was some little time before I succeed in locating him, as he possessed a way of his own, of evading every effort on my part to find him.

He seemed to be here, there and everywhere, all at the same time, for when I advanced toward the direction of his voice, his song would cease, then in a few moments it would be heard again in some other part of the field.

He did not at any time appear to be far away, but like some invisible airy nothing, he stole around, and about me, without my obtaining the slightest glimpse of him.

Finally I secreted myself beneath the branches of a low persimmon tree, with the avowed determination of remaining with my new found friend for the day. After a short time of eager waiting I saw a bird fly from a clump of blackberry bushes and light on the dead limb of a pine sapling but a few yards away. As soon as he touched the tree he assumed a crouching position, much in the manner of a bird attempting to screen himself from view, but in a trice he stood erect, and then that little bit of a wee mite of a bird begun his wonderful song, which eclipsed anything in the shape of bird music I had ever heard.

Without an effort he stood upon that old dead branch and warbled the song he had learned so well. No turn of head, no jerk of his tail, no spread of his wings, or movement of his feathers, save a slight swelling of his throat, as he poured forth his sweet refrain inmindful of the world around him. The song continue for one or two minutes, when there would be a kind of of intermission of one or two mintues more, during which time the bird would busy himself arranging his plumage preparatory to another performance, which made me want to clap my hands by way of encore, but fearing he would not respond, I dared not to do it.

Tone of the notes were similar to those of the Indigo,

Bunting, but more continued, louder and stronger, while the wind up of this indescribable melody, was not unlike the metalic clink of the well-known Bobolink.

In some parts of his song the bird became a veritable ventriloquist. At times I caught myself turning my head to better hear the notes of the same bird, which appeared to come from a songster in another direction.

A slight but intentional movement on my part startled the bird, causing him to fly to another pine tree some thirty yards away; so to avoid a misfortune, I "brought him down," and soon held him in my hand.

The specimen was sent to Mr. F. L. Burns, of Berwyn, Pennsylvania, who without being positive, pronounced my find a Bachman's Sparrow. It was afterwards sent to the Smithsonian Institution, where Dr. Richmond verified Mr. Burn's identification.

The spot where the bird was captured is an old turned out field, so common in our Southern Country, and is well adapted to the wants of the Bachman's Sparrow. For years this field has remained uncultivated, and has a waste of broom sedge, a kind of coarse grass which grows wild on barren and neglected places. For the purpose of pasturage this field has been "burned off" every Spring. This, with the constant grazing of cattle has caused a short stiff stubble to form upon it. Here and there over the entire field grow blackberry briers, and thorn bushes, while the whole is overgrown with low stunted growth of persimmon, oak, pine and sumach. The field includes an area of about twenty acres, with a common country road running through it, dividing it into two nearly equal divisions. This road is used constantly by teams going to and from Atlanta, and the tree from which the bird was shot, stands not more than a dozen yards from the center of this thoroughfare. I mention this road as argument to show, that while the Bachman's Sparrow, though a shy and timid bird, never courting the presence of man, does not turn from his chosen haunts to shun him.

On the 20th of June of the same year, while walking over the same field again, I secured one male, one female and two young but fully fledged birds, the sex of which I was unable

to determine. I afterward found an empty nest about fifty yards from where the birds were taken.

On April 28th, 1900, I secured another male in the same field, about two hundred yards from where the other specimens were found. This was a smooth, clean bird and probably had not yet found a mate. Thus ends my experience with the Bachman's Sparrow.

Some other time, I trust I may be able to write of this bird, that it is "fairly common" in DeKalb County, Georgia.

ROBT. WINDSOR SMITH, *Kirkwood, Georgia.*

CROW LANGUAGE.

While watching *Corvus americanus* at all seasons of the year and listening to their various cries, I have frequently been impressed by the individuality shown in their most common notes, no two birds appearing to have voices exactly alike, whether found in pairs, small companies or great flocks. Perhaps they are few collecting oologists who have not noticed the dissimiliarity in the notes of the sexes about the nest. While not doubting but that they possess a simple language of their own, the difficulties of interpretation are greatly increased by the wide variation occasioned by this same individuality. In saying that the Crow probably possesses a language, it need not be infered that it is meant to assume that it has acquired conversational powers, but merely through the articulation of a few sounds it is able to convey to its own species its sense of pleasure, fear, anger, etc., in other words a vocal code of signals familiar to its associates.

In my mind there is no question but that the manner of utterance is of higher value than mere difference in note. A note possesses various meanings according to the pitch and manner of uttering it. It would be difficult if not utterly impossible to discover and record the language or dialect of a savage tribe of our fellow human beings merely by a stolen and occasional hearing of scraps of conversations, then how much harder it would be

to fully interpet the Crow under similiar conditions without being able to analyze their feelings and conditions, and without imperfect means for the correct portrayal of their voices. The national note of Crowdom is a loud and harsh *caw, cawh*, as given by Bendire, or *Khrah* according to Langille. It has variety of meanings, pitched high it may be a call, an alarm or to attract attention. Falling inflection:—answer to call, reassurance, an all is well signal, uttered with more than ordinary energy it denotes alarm, anger, or merely that the argumentative powers have been aroused. Softly—caution but not immediate danger, often used by sentinal and occasionally about newly constructed nest. A soft and caressing *Ca-awh* while working upon the nest, relieving brooding mate, or training young, sometimes heard, most frequently voiced by the male. The next most popular note is the clear and ringing *Co*, the most musical of the whole vocabulary. It is usually given four or five times in succession and is nearly always in the form of a call. *Kar-r-r-r-r* is ordinarily or brooding note of warning. Very soft if only to warn mate into silence, but hard and vicious if voiced in face of intruder. Bendire gives it as *Krah*; other modifications are *Kar-r-r* and *Kur-r-r-a*.

Kar-ruck, (emphasized on the last syllable) has an indescribable hollow, guttural, clicking sound, most frequently heard in the late winter or early spring, although I have heard it not infrequently late in November. Probably the best attempt at song, although I am inclined to attribute it largely to individuality, as I have marked birds in flocks during the winter and in certain groves in the breeding season which have regularly used it; while the majority do not appear to have included it in their vocabulary at all. The modification are *Kar-r-r-ruck, Kar-rack*, and *Ku-rack*.

A loud and quick *clock-clock-clock* is rather unusual. It shares the percularity of sound of the previous note but is even more hollow. I have always noticed that the bird was at rest on or near the ground when uttering it. I have considered it as abnormal.

Another, are series of notes, was heard one cold day in

February, a low sputtering, rattling *Kek-ek-ek-ek-ek-ek-ka-ah* repeated, at first suggesting a Kingfisher, from a single bird as it flew about near the ground, feeding.

The love note of the male is a *Cow-cow-cow-cow* or as Langille has it—*Chow-ow-ow-ow*, low and deep.

The female's love note is a series of strange cries, *Caw-caw-caw-caw-caw-co-co-co*, beginning soft and nasual but after the first two notes increasing in force and measure until broken off.

As previously stated, Langille has recorded love notes of the male, but I believe Maynard to be the only ornithologist who has described at length the courtship of a pair, and in all probability he has too highly colored his discription. Before giving my own version I will quote him, as his *Birds of Eastern North America* is not accessable to many: "It may seem absurd to talk about Crows singing, but having heard their performance, I can bear testimony to the excellence, that is comparatively speaking. I was once watching a pair of Crows that were building in a small grove near Newtonville, and, as I had succeeded in gaining a place of concealment not far from the birds, without attracting their attention, had a fine opportunity of observing their movements, while they were entirely unconscious of my presence. The first thing I noticed was a peculiar sound which somewhat resembled the cooing of a Dove, but it was far more musical. As only one of the birds was discernable from where I stood, I could not at first make out from what direction it came, but after a moment moved slightly when I saw at once the author of the singular melody was no other than a Crow, evidently a male; it was seated on a limb of a tree by the side of its mate and he behaved in an odd manner for so grave a bird. He would move sideways on his perch, bow his head, spread his tail, and droop his wings, at the same time giving utterance to a cooing note. The female watched him demurely all the while but made no demonstrations whatever, and, after performing some five minutes, both flew away."

My first witness of this highly interesting performance was in the afternoon of the cold day of April 20th, 1897, and from the notes taken on the spot it will be seen that no doubt is left as to the sexes. The female was about three hundred yards

from the newly constructed nest. She appeared entirely oblivious to my presence although the trees were yet destitute of foliage, but appeared very restless, constantly shifting her position from one tree to another a few yards at a time. Acting in the manner of a very hungry fledgling just out of the nest, with wings now drooping helplessly, now half extended, tail opening and closing, falling and rising; head thrown back and from side to side; accompanied by uncouth movements of the body; almost constantly uttering a series of strange cries, beginning soft and nasual but growing louder and faster after the first two notes: *Caw-caw-caw-caw-caw-caw-caw-caw-co-co-co-co.* The series of notes were often broken short, and from the bodily contortions and cries of agonizing entreaty, one would suppose that the bird was in the last struggles with death. This continued with brief movements of silence for about fifteen minutes, when I heard, some one hundred yards from the female and directly in the rear of my place of observation, a deep yet softly uttered *cow-cow-cow-cow* from the male, whose presence I had been in ignorance of up to the moment. The female continued her cries for about ten minutes, the male remaining quiet the same period, when a *cow-cow-cow* loud and full was answered by the female as before, immediately after which they both left their perches and flew as to a common center until a few yards seperated them when the female turned pursued by the male in a zig-zag course below the tree tops; copulation having taken place in midair, the female returned and recommenced her cries but less frequently; the male having taken post at some distance. I have since observed the above described performance in other localities, though it must be confessed a less extravagant part was taken by the female, otherwise I would be compelled to regard it as a caricature rather than a normal trait, for I heard it again at 5.30 p. m. March 27th, 1898, and again on May, 6th, 1899, in the identical wood in which the first occurred. It was easily approached to within gunshot range, folding and spreading its wings, hopping or flying up one limb to another and down again in an exceedingly frenzied manner, uttering inarticulate cries similar to the voice of the young. This female was easily recognized by me on account of the

perculiar *Kar-ruck* note it uttered and protested all the Crow and Hawk nest robberies I committed within a radius of a half a mile of its stand. I cannot say for certain whether it had a mate in 1898 or not, although I did not note it about at the time; but investigation failed to discover the male in 1899, and the fact that I failed to take a set of eggs in the three years from this section of the woods although all nests were examined, is significant. The male may have joined another female or as it is highly probable that they mate for life, he may have been shot. The female was undoubtedly barren and to all appearance *insane*. It had probably received some injury about the brain, perhaps from a grain of shot. It was my intention to have secured it for examination but as it was not in its haunts in 1900, my opportunity had passed.

FRANK L. BURNS, *Berwyn, Penna.*

A WISCONSIN BIRD PARADISE.

It was a beautiful afternoon the third week in May, when a friend and myself rode out about four miles into the country, tied our horse in a kindly farmer's yard and struck into the woods. At the edge of the woods a Rose-breasted Grosbeak was singing joyfully. We stood and looked at him for several minutes. A few rods farther on a Scarlet Tanager flew across our path and while I was looking at him my friend saw the Ovenbird walking sedately down a log. We soon came to a clearing, fringed around the edge with half grown maples and poplars, with a grove of beautiful large maples in the center. An old log house to one side with the dense woods all around. It was an ideal spot for birds, and we looked and looked and it seemed as if we could not admire it all enough. While admiring the scenery a loud chip caused us to look around, when we saw the Scarlet Tanager's beautiful mate. She looked at us for a second, then flew up into a tree, and upon following her with our eyes, saw she was perched beside her brilliant mate. Later on I saw them building a nest in an old dead tamarack tree in the dense woods. Following an old grassy road we came to an old tumbled down log bridge,

which we crossed a shallow brook. One side of the stream was the dense woods, the other a tangle of bushes about ten feet high and the ground rather swampy. Sitting down on an old log my friend and myself held our field glasses in readiness for anything. We could hear the Grosbeak still singing, and the bushes seemed alive with Warbler songs.

Soon a loud splash, and a Rose-breasted Grosbeak was bathing not ten feet from us. He splashed around well then flew up in a low tree and went to pruning his feathers. In a moment a Chickadee went through the same performance, then two Blackburnian Warblers made their appearance a little further on, and they bathed repeatedly and then sat on a tree in plain sight and made their toilet.

Then came a pair of Chestnut-sided Warblers followed by two Black-throated Green Warblers and all the time the concert was going on. Finally we had to leave and the birds were still bathing. The next week, I went alone, to the same spot, and sat down, in a second a Chipping Sparrow come to the bathing place, then a Chickadee, then several Chestnut-sided Warblers, then followed a Parula Warbler, the first one I had ever seen, then a Black and White Creeper and several Red-eyed Vireos. The concert was something bewildering. A Catbird sang just back of me, and the Grosbeaks and Red-eyed Vireos kept up a perpetual singing. In a distance the flute-like song of a Thrush reached me and over all was the call of *Teacher Teacher Teacher*.

I did wish every bird lover could see this beautiful spot. Our Northern woods seem very rich in birds. So many species that the bird books pronounce rare we see very often.

E. S. G., *Antigo, Wis.*

NOTES ON THE MERGANSER SUB-FAMILY.

In the latter part of February the ice in Cuyahoga river breaks up and the first northbound migrants are American Mergansers. First comes the drakes in gaudy white and black dress, and by the first week in March they are gone and the dun-colored females and immature males come in with the Mal-

lards and Black Ducks. I have never seen males and females on the same day. Totally unfit for food, they are not molested by the hunters and are only useful to the taxidermist. They are wonderful divers and will swallow fish so large that they have to keep them in their throats until the heads are digested by the stomach. A female killed March 7th, 1898, had a shiner ten inches long in her throat and gullet. The tail of the fish protruded from the bill of the duck which was flying when shot.

I killed a large male on Feb. 22, on the river that had several small fish and one seven inch sucker in his throat. The head of the sucker was partially digested.

These Mergansers are unable to take wing against the current and always rise down streams as the current is very swift and they cannot get the resistance of the water against their feet when trying to fly up streams and I have seen them flop along the water for fifty feet against the current in a vain attempt to rise when danger threatened below them.

The Red-breasted Merganser is a more common species and makes its appearance on the lakes about the last week of March.

Traveling in larger companies than the foregoing species it comes well to decoys. Their food consists of fish of the smaller varieties and I have never found any large fish in their gullets. After the ducks season is over they become very tame and associate with the tame ducks on the lakes.

The Hooded Merganser is the smallest of the Mergansers and the only one that is seen here in the fall to any extent. It appears on the lakes in October in small companies, mostly females although a few males are seen. This Merganser is a very fair table duck and compares favorably with Widgeon and Bluebill. The rarest of the three Mergansers with us and the last to arrive in spring this species first appears on the lakes in the first week of April.

WM. B. HAYNES, *Akron, O.*

THE FIRST 20th CENTURY HORIZON AT OBERLIN, OHIO.

According to my established custom, the first day of the new century found me a-field starting the list of species for

the year. The course taken was a little out of the ordinary for this all day winter horizon, yet intended to cover as varied a landscape as the country affords.

Two small woods, a weed grown thicket and several open fields yielded but four species on the way to the head waters of the Beaver Creek. This was partly due to the early hour of the morning, partly to the sharp and brisk south-west wind, partly to the temperature of 18°. The clouds made the twilight linger until nearly eight o'clock, when they partly lifted and did not return until four in the afternoon,

The course led me down the stream to within two miles of Lake Erie, when a mile across country to the west gave me the birds which can be found only in the dense thickets which surrounded and cover the sand-stone knobs so characteristic of the northern part of our county. Where these have not been quarried, or at one time quarried and later abandoned, the thicket loving birds find a paradise.

From this series of woods and thickets one emerges upon the lake shore or the lake swamps as he prefers. I chose to visit the swamps first where disappointment awaited me in the entire absence of Cardinal, which had failed to put in an appearance along the course of the stream. Song Sparrows were numerous here, but Junco and Tree Sparrow were absent.

The three mile walk along the lake front treated me to a disappointment and two surprises. No American Herring Gulls could be seen anywhere even there was little or no ice beyond the shore pack ice. An approaching train started an American Merganser from the water just beyond the shore pack ice. A happy company of seven Snowflakes played hide and seek with me over the rail-road embankment. Why do their voices and every action bespeak the frozen North ?

It seems a little strange that but a single Sparrow Hawk and a single Prairie Horned Lark should have been seen during the whole day. The solitary American Herring Gull was beating its way over the Lorain Harbor toward the lake while I waited for the trolley car. The two Crows and two companies of Meadowlarks were somewhat of a surprise. They are more often absent than present during the first weeks of the year.

I have little doubt that Bluebirds, and possibly Robins, were somewhere about also.

A glance at the summary will show that of the 21 species recorded the Tree Sparrows were by far the most numerous in individuals, yet they were far less in evidence during the day than the Nuthatches, Downy Woodpeckers and Tufted Tits, because they were always in considerable flocks while the other occurred in companies of two to four.

It is worth while to spend a day in the wind and snow when you can meet 310 birds in their own reception halls!

THE HORIZON.

Am. Herring Gull, 1.
Am. Merganser, 1.
Bob-white, 12.
Red-shouldered Hawk, 1.
Sparrow Hawks, 1.
Hairy Woodpecker, 3.
Downy Woodpecker, 11.
Red-bellied Woodpecker, 3.
Flicker, 6.
Blue Jay, 14.
Meadowlark, 24.
Am. Goldfinch, 2.
Junco, 12.
Tree Sparrow, 160.
Song Sparrow, 11.
Snowflakes, 7.
Tufted Titmouse. 12.
Chickadee, 8.
White-breasted Nuthatch, 18
Prairie Horned, Lark, 1.
Am. Crow, 2.

Total 21 species, 310 individuals.

LYNDS JONES, *Oberlin, Ohio.*

A SUGGESTION.

It is generally recognized, as is believed that the modern trend of investigating thought lies more and more directly in the line of specialized effort. This is true with at least several branches of the natural sciences and of late years also seems to be holding good in the work produced by many of our best ornithologists. Our own chapter publications, for example, have contributed several noteworthy efforts in that direction, and of which, more recently, the Flicker Bulletin might be favorably mentioned in this connection.

Though Prof. Jones' "Warbler Songs" should certainly

come in for praise, it is with regard to the former production that I desire more particularly to speak.

This Bulletin having met with such a reception and generous appreciation on the part of ornithologists and bird-students in general, would it therefore not seem like a timely suggestion for the members of this chapter—(and others if they should so desire)—to bestir themselves a trifle with the direct purpose in view of rounding out more completely the life-history of this interesting bird?

The writer feels very sure that its author would gladly assent to such an idea and readily contribute his valuable aid in making a supplementary report possible, which could be treated to required length in a future number of our Bulletin, and perhaps without incurring the additional expenses of producing it separately as in the case of the original report.

Many of us no doubt have notes and items of interest, as yet unpublished, which if brought together under the respective headings, as arranged by Mr. Burns, would furnish a paper of no little importance. The writer has managed to pick up a few such items, originally overlooked, and has heard of others who have forwarded notes of similar character on the Flicker to Mr. Burns. A mutual helpfulness in this respect should accomplish much; and in this connection, it might be worthy of remark in saying that co-operative monographic studies of our birds will constitute in the main a very great incentive to future ornithological work, and, further, it would not seem like an altogether vague idea to even suggest that every resolute worker of to-day should select his bird.

To get our bird-matters into more tangible shape is really what we should now strive for without requiring the necessity, as at present, of reading through an entire library for the purpose of imforming ourselves more particulary with regard to a single species. Mr. Chapman has thus similarly expressed himself in a recent review of Mr. Burns' work—a statement which many of us will readily concede as true.

There are some of course who may object to such a proposition on the ground of narrow specialism, yet it should not be so understood that our aim is to simply study *one* bird, but

on the contrary observe what we can of all and instead of hoarding our notes, as many of us are now doing, allow others more favorably placed to use them so that *we* in the end may enjoy and benefit by them as a whole.

By such an arrangement who can possibly foretell the grand results obtainable—besides the cultivation of a more fraternal feeling among us, an idea, by the way, that should not be entirely overlooked.

Scientists, and especially ornithologists, are now entering the field of bird legislation—enactments, in one way and another; therefore, why would it not be an excellent plan for them to get a little closer together? To the writer at least these would appear as questions of some moment, and what others may have to say along the same lines surely cannot fail of interest.

BENJ. T. GAULT, *Glen Ellyn, Illinois.*

GENERAL NOTES.

THE EVENING GROSBEAK.—Said to be a rare bird has been seen twice in our city this winter. It was also seen once last winter. Quite a large flock remained here some two weeks. I also saw a very large flock at Sheboygen last February.

ELLA S. GIBBS, *Antigo, Wis.*

UNUSUAL ACTIONS OF A TURKEY VULTURE, *Cathartes aura.*—Much comment was made on the movements of a solitary individual which acted the part of a scavanger in the back yards of the residents of the northern part of the village during the last two days of November, 1900. At about 2.30 p. m. December 1st I observed it settle on a low branch of a large chestnut tree near the railroad. The temperature was a little below the freezing point. The bird remained some fifteen feet above the ground in a roosting posture and facing a moderate but cutting wind all the afternoon and probably all night as it was not disturbed. It most have been a very aged bird or else a straggler from the south, our local birds being much more wary.

FRANK L. BURNS, *Berwyn, Pa.*

THE FLIGHT SONG OF THE KENTUCKY WARBLER.—The following letter entitled "A Woodland Mystery" was clipped from a Chester County, (Pennsylvania) newspaper last fall:

"Editor *News* :—For three Summers a little bird that sings on the wing has concealed its identity from me.

Its favorite time seems to be just at twilight, when it will swing out from the side of the wood which is close by our door, and after a short semi-circular flight, accompanied by a brief song, will dive among the trees and remain perfectly quiet.

I have heard it early in the morning and again by 3 p. m., but it sings chiefly at about dark, and this, with its manner of doing so, makes it very difficult to indentify.

Only a small percentage of our birds sing in flight, among them the Ovenbird, and as we have a number of these near, and I was not familiar with their air song, I was inclined to put the responsibility on them, but I thought I once caught a gleam of yellow as the singer slid among the trees, and twice I fancied the air song began and changed into the common song of the Kentucky Warbler.

At last, and probably nearly the last time it sang this season, as it closes its programme about the middle of July, I got a sufficiently near and clear view to satisfy me that it was the Kentucky.

The bird is not very common here, or rather, it seems to be quite rare for a series of years and then more plentiful for a while. It is about the size of our Vireos, with bright yellow breast and black markings on the sides of its head, in fact it looks very much like an enlarged copy of the Maryland Yellow throat.

It has nested and raised its young near us for several years, and a part of the time its common day song, sounding like pretty, pretty, pretty, is, perhaps, the most noticeable and constant one to be heard. But so shy is it with its air song that it has taken me three seasons to make sure of it.

EDWARD SWAYNE.

FOOD AND GRAVEL.—In collecting a series of skins of the Song Sparrow, I was struck with the large amount of gravel

found in their stomachs in comparison with those of some members of other families. For instance the Robin which is a common winter resident here, some ten or twelve stomachs examined contained little gravel; they are filled with everything like an insect that can be found, more particularly a small white larva which they seem to pull out of the ground but which I have not been able to find in the very places where they have been feeding. Where the old "turned out" fields have been burned over, the Robins are the most plentiful and there they seem to find most of their food. The stomachs appear to contain more dirt than gravel, although a small amount of sand or gravel is evident.

Of course the Song Sparrow is a hard-billed bird and it not only swallows a much larger amount of gravel in proportion to its size in comparison with the Robin, but it is particular to the kind it takes into its stomach. Those that I have taken this season have been secured in low marshy ground adjoining streams. In these little streams, often mere ditches, is found small white gravel mixed with the gravel of a dark brown color, and the white gravel is invaribly found in the gizzards of these little birds. Of course the reason is obvious why a seed-eating bird requires more grinders than one that is purely insectivorous, but what is the virtue of the white gravel alone?

Another thing I have noticed is that birds like many other bipeds "only scratch for a living when necessity make scratching compulsory." Mockingbirds, Catbirds and Brown Thrashers though insectivorous, will simply move into a wild cherry tree or a place where the berries of the pokeweed are ripening, and stay until everything in the fruit line is consumed. An examination shows that few or no insects are found in their stomachs at this time, and the underparts of their tails are stained with the juices of the fruit, being plainly seen when they take flight. It is a common saying of the negroes of the South when speaking of a man when drunk that "his face looks like a Catbird's tail in pokeberry time."

ROBERT WINDSOR SMITH, *Kirkwood, Ga.*

VERNACULAR ORNITHOLOGY OF DELAWARE.—When business called me to the Southern border of Kent County,

Delaware, for a few days in midsummer, I had hoped to do something in the ornithological line in the moments of leasure which come to us all. For reason's unexplained the Blue Hen's Chick has not been "in it" ornithologically. I am unable to recall a single prominent name identified with the avifauna, indeed very little appears to have been written when compared with the activity of surrounding States. The list made by me was not a large one—58 species. Birds were for the most part silent and moulting. Then the temperature was against me, the mercury often well above 100° F., and few excursions were made. The Turkey Vulture flying about the village and down in the back yards in a semi-domestic state was a most novel sight to me.

I made the acquaintance of a resident who had made a collection of eggs some years previous. I shall never forget the conversation I had with him one evening while seated on the bank of a large mill dam waiting for the festive "Bull head" to bite. "Yes-sur, I've took de eggs of about all kinds of birds dat nest aroun' yer—de Blackbird, Bluebird, Yellowbird, Redbird, Indigobird, Railbird, Ground Sparrow and Tree Sparrow. See dat ole Crane flying up creek? No sah, never took no Crane eggs, dey build too high, but I done took Mudhen's, and plenty of Killdee, Patridge and Turtle Dove—Buzzards too. Dat Fisher's after yellerneds—we call him Kingfisherman sometimes. What kind of Hawks and Owls? Why down yer we have 'em all—Fisher Hawk, Hen Hawk, Turkey Hawk, Privteer, Bird Hawk, and Cat Owl, Booby Owl, and little Squinch Owl." (Osprey, Redtailed, Red-shouldered, Cooper's and Sparrow Hawks; Great-horned, Barn and Screech Owls,) "Three kinds of Crows—Chicken Crow, Jackdaw Crow and Rain Crow," (American and Fish Crows, and Yellow-billed Cuckoo.) We got a little bit of a bird aroun' yer called Locust, never seen it but once, can't describe it, but it sings jes' like a Locust. No, not Locustbird, jes' Locust, (Probably the Blue-winged Warbler.) Thar's another little bird that used to build its nest all covered with moss on a limb, that's the Tomtit." (Blue-grey GnatCatcher.) "Not many Woodpeckers, only the Big, Little and the Yellow-hammer" (Pihated, Hairy

and Flicker) "Them thar's Bullbats flopping over the water. We used to find plenty of their eggs but no Whipper-will's eggs. Reckon the Whipper-will's the old he-un and the Bullbat's the she-un, for I never heard the Bullbat sing." The local names of the Spotted Sandpiper and Green Heron followed but are too fearfully expressive for these pages. We had nearly exhausted the list of some forty species which he asserted was all that nested thereabout, some few of which we both knew by the same names, but—"Mockingbird? Yes-sir, we got *two* kinds, the English and the French Mockingbirds. Oh yes dey's both Mockers shore, but the English's the best." The last remark deserves more than a smile when one discovers that this title designates the Southern Mocker, knowing that it ranks above the Brown Thrasher as a songster. Truely the early settlers, from whom this and many other of the local names originated, thought the word "English" donated something a little superior to that of "French." I also heard the Brown Thrasher called "Red" and "Rusty Mockingbirds."

FRANK L. BURNS, *Berwyn, Pa.*

EDITORIAL.

With the completion of the October number, Professor Lynds Jones who has so ably conducted the WILSON BULLETIN for the past seven years, retires from the editorial chair, and the writer assumes the management for the current year. It will be continued as near as possible on the same lines as heretofore. It is essentially an outdoor bird students' journal, appealing for support to no particular faction or hobby, nor to state or sectional pride, but rather to that growing body of everyday bird lovers. The BULLETIN has survived scorces of more or less pretentious ornithological periodicals. It has seldom failed to give more than value received. To many of its subscribers it has been a training school, teaching honest, paintaking, perservering observation, accuracy and fluency in description, which has resulted in increasing experience and proficiency in the field selected, and the accumulation

of valuable data without which no great principle can be evolved. It has also encouraged specialism and co-operative study as most certain to give satisfactory results, holding that no one person can be fully competent to study a bird from every standpoint and individually obtain complete knowledge of its life. To those in sympathy with the work and purposes of the Chapter, we appeal for aid and encouragement. This is not a money making venture, but it is kept in existance by the pride and sacrifice of the members. Like all scientific journals, back numbers increase in value as time passes and no ornithological library is now complete without a file of the publications of the WILSON ORNITHOLOGICAL CHAPTER.

As formerly the membership dues should be sent to the Treasurer—Prof. Lynds Jones, Oberlin, Ohio, and applications for membership to the President—Reuben M. Strong, Cambridge, Mass., but subscriptions, exchanges, manuscript, and other business communications should be addressed to the Editor—Frank L. Burns, Berwyn, Penna.

In another page we publish a communication from Mr. Benj. T. Gault, and would be pleased to hear from any of our readers pertinent to the suggestions he has offered and in due time the additional notes, comments and corrections, of which we already have a few, will be placed in the form of a supplement to be placed inside the covers of BULLETIN No. 31, or published in some future number of General Notes, according to the wishes of of the readers. In connection with the above we would enquire whether anyone has discovered the adult Flicker in the act of removing the excrement of the young while in the nest cavity; and to those who may have examined one or more broods in the nest, we would be pleased to know in what condition the nest was found. Under the head of Young the statement was made that the parent bird does not clean the nest. This is undoubtedly too broad an assertion as the writer has found some nests with the young singularly clean while other cavities were far from cleanly. Several nests of the Downy Woodpecker containing large young were examined and found to be perfectly clean. This subject will bear further investigation.

Many of the old *Ornithologist and Oologist* readers will recognize a familiar pen in our leading article. Mr. Walter Hoxie contributed frequently to that magazine in its most palmy days. We hope to catch him in a reminiscent mood soon and have him write of hunters and ornithologists now dead but not wholly forgotten, and of incidents and adventures long past, away back when the Passenger Pigeon was trapped and the Labrador Duck shot to eat.

Plans for the future numbers have scarcely been formulated, but we can pronounce something of interest for every issue. Professor Lynds Jones and others will continue the "Bird Horizon"; an interesting episode in the life of Alexander Wilson which has only been touched upon previously, will be given; and articles and notes of general interest contributed by others of our members and subscribers, will serve to maintain the high standard set by our predecessor.

It is small wonder that Gmelin, Wilson, and a few others of our earlier Ornithologists should have failed to discover the dichromatic state of the plumage of the Screech Owl, but regarding the grey phase as totally distinct from the red phase and naming accordingly; knowing so little of its life history as they did; but it is just a little queer that Bonaparte, Audubon, Nuttall and Cassin should have made almost as great a mistake in correcting their predecessors, for they believed the grey plumaged bird to be the adult and the bird in the red or rufous plumage the young; and it is only within the present generation that the full truth has been known. At this date how many know the predominating color and proportion of one to the other in a given locality? And whether the males are more given to the red or grey coloration than the females, or vice versa? Let every reader sit down and copy off a list with locality, of the reds, greys, and intermediate grades captured, and observed, as far as possible subdividing them as to sex and age—giving males and females, adults and young under each phase of plumage. It ought to make an interesting list as all are familiar with our little Screech Owl, and the editor will be glad to publish the results in tabulated form in the next BULLETIN.

It is but fair to warn the reader that the honors of editorship are not of our seeking, that it can be but an incident of a not a unbusy life, and that the position is an unfamiliar one; we do know that no magazine can be successfully conducted without an abundance of manuscript to select from when making up a copy for the printer. It is also necessary in this instance that it should be written by bird lovers, or by persons sufficiently observant and in positions to give unbiased statements of value to the Ornithological world. We want to hear from the Ornithoiogists because they are engaged in perfecting the science of bird sand always have something to say. We want to hear from the Oologists because they have done more to popularize the study in the past then any other class, and are a persistant, hardworking and observant body. We want to hear from the Audubonists because they are now continuing on a higher plane the work the Oologists began, and are very much in earnest. This shall continue to be the neutral ground where all shall meet on equal terms.

PUBLICATIONS RECEIVED.

The Bittern, edited and published bi-monthly by Glen M. Hawthorn, of Cedar Rapids, Iowa, is a small but neat periodical. The August number contains articles by Dr. Morris Gibbs.

The Petral makes it initial bow at the beginning of the century. The first number is 16 pages and cover, well edited and presents a very good appearance. It contains articles of varying length and merit by such well-known writer sas James J. Carroll, William L. Kells, Walton S. Mitchell, Ellis F. Hadley, and others. It is edited by John William Martin at Palestine, Oregon.

American Ornithology, published monthly by Charles K. Reed, Worchester, Mass. is somewhat different from the usual bird magazines. It is proposed to give the life histories of several species each month. The February number contains the

second installment which is sufficiently varied to please all. The Semi-palmated Plover, Great-horned Owl, American Eider Duck, American Osprey and Ruby-throated Hummingbird, are each alloted a full page illustration and two pages of text. The plates are very artistic and the figures easily identified; but the attempt to give the life history of any one species of our birds in a page and a half of matter written in a popular form, while praiseworthy, can scarcely fail of falling short of the desired result. It is to be hoped that Mr. Reed will receive the support necessary to the continuance of a work so expensive, as this must be,

A Summer Reconnoissance in the West is an account of a 7000 mile journey taken last summer by a College Professor and a Clergyman for the purpose of studying the avi'fauna of various localities in the great West. As it is a W. O. C. publication, we shall not review it here; but cannot forbear pronouncing it the most remarkable record of its kind ever made. The Authors were the pioneer advocates of the value of "bird horizons," and are most expert at this work. We would advise those who have not already secured this paper to send 20 cents to Prof. Lynds Jones, Oberlin, Ohio, and get a copy before the edition is exhausted. [F. L. B.]

Our Feathered Friends by Elizabeth Grinnell and Joseph Grinnel, with Introduction by William Palmer. Published by D. C. Heath & Co.

This little volume of 144 pages is written for children in a language which can easily understand. It has grown of a deep love for the birds and a keen desire to start the children on the right path. The subject matter is largely drawn from the personal experiences of the authors in their efforts to make friends among the birds, and is so full of life and color. The illustrations in the text are mostly drawn for this book to tell something definite about the bird or birds figured. The three full page photographs of the Hummingbird family cannot fail to greatly interest all. If there is one thing of more interest than another in this little book it is the story of the two robins taken from the nest in New England and raised and kept in Pasadena.

Here we feel the touch of the bird personality. The book is full of hints how we may gather the birds about us and keep them there year after year. It should be in every home.

[L. J.]

Birds of Pennsylvania, et al, by H. B. Warren, M. D. Published by the Authority of the Commonwealth. The history of the publication of the various "Bird Books" begins properly with the enactment entitled "The Bounty Law" on June 23rd, 1885, the date which it received the Governor's signature. This law in brief was the establishment of premiums for the destruction of certain noxeous birds and animals, namely Hawks, Owls, (excepting the Acadian, Screech or Barn Owls), Wild Cats, Foxes, Minks, and Weasels; "for the benefit of agriculture and the protection of game." It was not until six months had passed or the beginning of 1886 that this law become generally known. The person killing a Hawk or Owl was entitled to the sum of fifty cents for each and every one presented at the office of a Justice of Peace, that official being recompensed for the issuance of certificate and the cremation of the head of the bird, by the further sum of twenty cents per bird. Soon the demands upon the Commissioners and Treasurers of the rural Counties increased at an alarming rate. In eighteen months over $100,000, had been paid out, of this at least $75,000, represented the premiums paid on over a hundred thousand Hawks and Owls, principally the following species, although of course many of the less common species were represented: *Falco sparverius* American Sparrow Hawk, *Buteo borealis* Red-tailed Hawk, *Buteo lineatus* Red-shouldered Hawk, *Accipiter cooperi* Cooper's Hawk, *Accipterv elox* Sharp-shinned Hawk, *Buteo latissimus* Broad-winged Hawk, *Circus hudsonius* Marsh Hawk, *Asio wilsonianus* long-eared Owl, *Asio accipitrinus* Short-eared Owl, *Buteo virginianus* Great-horned Owl.

The "Scalp Act" as it was called soon became very unpopular with the county officials on account of the increased amount of work without extra compensation. This quickly extended to the tax-payers, first from the heavy expense incurred, and later from a doubt as to the wisdom of destroying without

some discrimination of species. The demand for an expert in this line led to the appointment of Dr. B. Harry Warren, of Chester County, as State Ornithologist, newly created and with a fair salary attached. Of this gentleman, Dr. C. Hart Merriam has said, that his investigations, more than anyone persons had led to a better knowledge of the food habits of these birds. Evidently no one in the State was better qualified to serve in the interest of Economic Ornithology than the appointee. To the credit of the people be it said that as soon as they become better informed on the subject, the hunting and killing merely for the bounty ceased to a large extent before the Legislature met and repealed this injudicious law which was unquestionably born of ignorance. Anxious to atone for their blunder and feeling the need of more light on the subject In its entirety to prevent a repetition of such vicious legislation, a bill was passed, and signed by Governor Beaver authorzing the preparation and publication of a Report on the Birds of Pennsylvania. The appropriation was $12,000, for an edition of 6000 copies. This appeared in 1888. It was 200 pages and 136 colored illustrations, the text by the State Ornithologist, and the plates after Audubon. The edition was so limited and the demand so great that in 1889 the Governor signed the bill authorizing the State Printer to issue 19,000 additional copies. This appeared rewritten and enlarged as the second edition in 1890, a handsome volume of 434 pages, 100 colored plates and bound in half morroco; a credit to the great State of Pennsylvania. Previous to compiling this edition, the Author sent out a request for information, accompanied by a provisional list of birds found in the State, for checking or annotating. Seventy-six Ornithologists or Oologists complied, among them the writer sent in his meagre list, fully expecting to receive a copy of the work from the Author's allotment of three hundred, but after vain attempts in all possible quarters, secured a copy in perfect condition for $3.50 at a book store in Philadelphia, where they were to be had at prices varying from $3.00 to $4.50 and $5.00. This was in 1894, long after Governor Pattison had vetoed a bill to issue a third edition, and all hope of receiving a free copy had passed. Outside of the small number

given to the schools, libraries, etc., few books were placed in the hands of those for whom they were really intended. The distribution is a standing disgrace to the Commonwealth. Those who could afford to buy should they have cared for it, were served first, with or without application. Zealous efforts of persons with little political influence to secure copies were rewarded by promises depending on this issuance of another large edition, for fulfillment; or the receipt of copies of an act prohibiting the killing or taking of song or other wild birds, except in certain cases and providing a penalty of a large fine or imprisonment thereto. The Second Edition was said to have been exhausted immediately after it came out, yet seven years after, two days before Christmas, 1897, I personally examined and counted ninty-two perfectly new or unused copies at Leary's Old Book Store in Philadelphia. They were not ever marred by the stamps of a State Official, As they had been on sale for several weeks previous, many must have been disposed of for attractive Christmas presents at a moderate cost, the price being $3.50. It would be interesting to know the source from whence they were procured.

Following the appearance of the separate editions, the conservatism of the scientific reviewers was in marked contrast to the extravagant praise bestowed upon the Author and his work by the public press; we find the most radical and ignorant of the reviewers comparing this work with that of Wilson and Audubon. Owing to some unfortunate errors in identification made by well meaning informants and the apparent neglect of the Author to look more closely into statements at variance with his experience, many local Ornithologists have, unconsiously perhaps, under-rated the Author and his work; which, if not a model, is at least the equal of its kind.

Governor Pattison having placed himself on record as opposing such bills, no more legislation was attempted in this form until 1895, when the House Bill appropriating $100,000, for the publication of 24,000 copies reached the Governor after having been reduced to $28,000, for the same number of copies by the Senate. Rather unexpectedly vetoed by Governor Hastings, there was some talk of passing it over his head as

it probably could easily have been done owing to the general demand, but the framer declined to attempt it, doubtless feeling the trouble of the Executive's words, viz: "Notwithstanding the popularity and value of the work and the general demand upon me especially by the farming people of the State, to sign the bill, I am of the opinion that in the present condition of financial and business affairs, it is not in accordance with wise and prudent economy to spend this sum for such purpose." Words that do him honor, at a time when the whole Nation was suffering from business depression and stagnation; but the point was destined to be gained by methods others than fair and without the Governor's knowledge. "Two officers of the Department of Agriculture, Dr. Pearson, State Veternarian, and Dr. Warren, Economic Zoologist, prepared a pamphlet in 1896, known as 'BULLETIN No. 17' relating to 'the diseases and enemies of poultry.' Thirty-five hundred copies of this pamphlets were printed at the expense of the State and issued by the Department of Agriculture. The edition was soon exhausted and there were numerous demands for additional copies. In transmitting the bulletin it was stated that the State Zoologist had in course of preparation additional matter, and in course of a few months would be able to prepare a report which would 'show the true life history of the birds and animals of which, at the present time, so many diverse opinions are entertained.' Attention was called to the fact that the value of poultry and eggs annually produced in the State amounted to $22,000,000, and that the loss to the industry by disease and predatory animals amount to$2,500,000, annually. That there was a widespread demand for information on the subjects treated of in the bulletin, and it was stated that if the authority was given to prepare documents on different topics of National history they would be 'embellished' with numerous illustrations. With this knowledge and these recommendations before it, the Legislature, with the approval of the Governor, directed the printing of 15,000 copies of 'Bulletin No. 17' with such additional matter and changes as the author might deem necessary, the form of the resolution being: "Resolved (if the Senate concur). That there shall be printed at the earliest possible date, in pamphlet form, 15,000 copies of Bulletin No. 17, of

the Department of Agriculture, entitled 'The Diseases and Enemies of Poultry, with such additional matter and changes as the authors may deem necessary to more fully explain this important subject.' This resolution was approved on March 9, 1897, and on April following the State Printer received from the Superintendent of Public Printing to proceed with the publication of the work, including an order to 'make type pages smaller and double lead as directed, special cover illustrated as directed by the order'." The result was simply astounding, from a pamphlet of less than 200 pages and costing about 11 cents per copy, it had swelled to a bulky paper-bound volume of 866 pages and 103 additional illustrations, costing between $4.00 and $5.00 per copy, or a total cost of $56,000.!

The Governor upon his return from a short visit to the West, was put in possession of the facts and immediatly sent for the Secretary of Agriculture and directed him to discharge from the public service Dr. B. H. Warren, State Zoologist, the auther of this publication, but was informed that he had already resigned and left the State. (Part of the testimony given by ex-Governor Hastings in behalf of ex-Postmaster General Wanamaker, in the collapsed suit for slander brought by ex-Superintendent of Public Printing Robinson last December.)

The Public Printer was compelled to carry the case to the Supreme Court, where he has just received a favorable decision ordering the State to pay his bill as he had done the work "in a satisfactory manner, and apparently, as far as the relator was concerned in a regular and orderly course of business. The Commonwealth got what it had ordered. If the cost was unduly increased it was because unlimited discretion was given to the authors to make changes and additions. The consequences of such loose and inconsiderate legislation may rest where they belong, and not visited upon the contractor, who appears to have acted faithfully." Where this edition has gone I am unable to say as I have seen but a single copy, but is possible that the recipients will find it less profitable than the former well bound editions; and it is safe to predict the Pennsylvania as a State will be chary of booming Ornithological works of any stamp for years to come. The *second scalp act* was more thorough than the *first*. [F. L. B.]

ON THE OCCURENCE OF TWO SOUTHERN BIRDS IN VA.

Virginia offers many conditions from a geographical standpoint which make it a state well favored with an extensive and somewhat varied avifauna. On the West, the Alleghanies, stretching from a northward to a southward direction, afford the conditions for the Alleghanian and Canadian faunae, while on the East, along the Atlantic sea-board as far as the Chesapeake bay, the Austroriparian life area, semi-tropical in its nature, gives rise to a fauna markedly peculiar as regards Mammals—some being of distinctly tropical genera—and containing some peculiar species of birds, as Swainson's Warbler. Throughout the remainder of the state the Carolinian fauna is present, and in certain sections one may find birds of several faunae mingling together. In Southwest Virginia in the Piedmont section I have observed birds of the cold temperate subregion fauna present in abundance,—as, *Dendroica castanea, D. virens, D. blackburiae, Trolodytes hiemalis, Turdus a pallasi, D. tigrina, Certhia f. american, Helminthrophila ruficappila, Junco hyemalis carolinensis*, and others, while birds of the Humid Warm Temperate faunae, were also present in great numbers and breeding, so that there were characteristic birds of three life zones present in the same locality,—birds of the Canadian, Alleghanian and Carolinan faunae all associating together in the same immediate territory. This was at Lynchburg, a locality that seems to be a merging point of the Alleghanian and Carolinian zones. At this same locality, later in the season, the Ground Dove and Bachman's Sparrow have been taken, the latter breeding. The Alleghanian zone has been considered by Dr. Allen as a transition belt LIMITING THE

NORTHERMOST RANGE OF MANY Southern species and the extent of the Southern range of many Northern species; hence the mentioned locality being of an Alleghanian X Carolinian nature, accounts for the protracted presence of these two Southern forms, and is probably the northermost point of their regular range, inasmuch as the chain of the Blue Ridge Mountains stretches from North to South, only a few miles from this locality, and these birds no doubt arrive from a Southeasterly direction and find their futher progress toward West and North barred by the mountain ranges.

JOHN W. DANIEL, JR., *Lynchburg, Va.*

HELMINTHOPHILA PINUS IN WISCONSIN.

The Blue-winged Warbler has always been considered a *very* rare bird in Wisconsin, as indeed it probably is, and so it was with a greal deal of pleasure that I found myself on July 11, 1897, while pushing my way through the edge of a deep second growth oak wood, with an entire family of them before me—parents and four or five young. They were busy feeding among the lower branches of the small, thickly growing young oaks, remaining in company like a family of young Redstarts and gathering their food entirely from the under sides of the leaves, hanging head downward a large share of the time; full fledged at this early date and only showing his immaturity by the indistinctness of the orbital stripe, the paler yellow crown and the general pin-feathered condition of the post-juvenile moult.

They had without doubt been reared in this very wood and it was with considerable eagerness that I watched for their possible arrival the following spring, but although I fairly haunted these and nearby woods the entire season, but one was noted—a fine male, killed before I realized what it was, while collecting Warblers on May 22.

I could not however give them up and the spring of 1899 found me early in these same woods—where on May 14 I came upon a Blue-wing and at the same instant saw the tell-tale grass

in its mouth that certainly indicated nest building. I had mistrusted from the young of two years before that they must nest very early but I had hardly expected to find them building when the bulk of the Warblers had only just arrived and many, strictly migratory species in our vicinity, would linger here for two weeks longer. This was not far from the place where the family of young was found in the summer of 1897 and I remained in the vicinity for some time but the bird had seen me and was extremely shy and nervous so I left and later in the day returned, but the steady sprinkle which had continued all day developed into a heavy rain and I was compelled to leave with nothing more gained.

Three days later I returned to the spot, had myself seemly hidden in the hazel brush with not long to wait when the bird returned—again with nesting material in her bill, and after a few anxious "chips" settled directly into a grassy sod in the centre of a small clump of hazel brush. She was there but a second and when she had left I was looking into the nest, almost completed and already containing one egg. Hastily withdrawing, it was not until the 22nd that I visited the birds again, accompanied by an expert in nest photography. The bird was found on the nest, which contained *six* eggs. This one, the female, was taken, the nest photographed and the watch for the mate began. So far but *one* Blue-wing had been seen at the nest at a time although the continued "chip, chip" of the mate, the exact call of the one killed had been heard many times when the female was in sight. In about a half hour he appeared in the immediate vicinity of the nest and at once showed his great nervousness and anxiety at finding us so near—but on picking him up after he was killed imagine my surprise at finding him nothing more or less than a Nashville Warbler (*Helminthophila rubricapilla*. It proved to be a male with enormously developed testes and no one with any experience with nesting birds could doubt for a moment, had they seen the actions of this bird at the nest, that he was any other than the mate of the female Blue-wing, and the male parent to the set of eggs. I believed it the moment I picked him up, but remained until late in the afternoon, until nearly dark for some other to appear, but neither

did I again see a Blue-winged Warbler or even hear a call that could have been either the Blue-wing or Nashville Warbler.

The Nashvilles are rather rare in these woods, indeed although I collected a great deal there during the year I did not meet with another during the spring or entire summer short of five miles from the nest,I particulairly searched in the immediate vicinity of the Blue-wings' nest for them, in order to completely do away with the possibility of there being a Nashvilles' nest in the neighborhood. The nest is composed of dry oak leaves and coarse grass lined with strips of grape bark and an inner lining of fine grasses; but slightly raised from the ground (not more than two inches) in a tussock of grass in the center of a small hazel bush. The cup is very deep, nearly 2 1-2 inches, and only 2 1-4 across at the top. Six eggs seems to be an unusually large clutch for this bird, but one finds so few records of the nesting of the species that it may be more usual than supposed.

I could not help but regret that in my eagerness and anxiety to make positive my identification of what is probably the only record of the nest and eggs of *Helminthophila pinus* in Wisconsin that I had destroyed such possibilities of further interesting hybrids of the species with allied forms, as I am as well satisfied in my own mind that the Nashville Warbler is the male parent of the set as though I had shot him from the nest.

Since then I have taken two more specimens of the Blue-wing in the same county—a male May 28, 1899 and a female May 13, 1900—the latter within twenty rods of where the young were found. Neither of these were apparently breeding yet when taken.

N. HOLLISTER, *Delavan, Wis.*

THE COLD WAVE OF FEBRUARY 1899, IN DeKALB COUNTY, GEORGIA.

Having received a few enquiries regarding the cold wave of of 1899, and its effect upon bird life in this locality, I have decided to place before the readers of the BULLETIN the results of my observation.

On Sunday the 12th at 6 A. M. the mercury had fallen from 30 degrees of the night before, to ten degrees above zero. During the night of the 11th there was a fall of snow, covering the ground to the depth of three inches. This continued with a few scattering flakes till 3 P. M. of the 12th when a high wind arose turning into a lilliputian blizzard, making the snow almost blinding to persons who happened to be exposed to it. There was but little variation in the temperature during the day, there being a rise to 14 degrees at 12 M, with a dropping back again to 10 degrees at 6 P. M. On Monday the 13th at 6 A. M. the mercury registered 12 degrees below zero, slowly climbing to zero at 12 M. rising to 6 degrees above zero at 6 P. M; Fair and calm all day.

On Tuesday the 14th at 6 A. M. the mercury stood at 2 degrees above zero, after which there was a steady rise in the temperature to 26 degrees above zero at 12 M., showing no variation at 6 P. M.

The temperature of the following days was about normal, there being no extreme cold weather experienced; the averaged temperature for the remaining fourteen days of the month at 6 A. M. being 37 degrees above zero.

On the morning of the 12th the rough weather began to show its effect upon the birds. They were driven from the woods to the shelter of barns, sheds or any old place, where they could find protection from the cold. Many of them in these places were wantonly slaughtered by thoughtless boys, who really did not comprehend the enormity of the act they were committing. These were Juncoes, Song Sparrows, White-throated Sparrows, Chipping Sparrows, and Vesper Sparrows.

On the morning of the 14th, about 10 o'clock, I noticed that the birds had abandoned the barn, and other outbuildings belonging to my home, and I immediately started out to find them.

Leaving the public road which passes directly in front of my house, I turned into a little foot path between two old fields, the remains of an old neglected Cherokee rose hedge forming the dividing line between the fields. This old rose-hedge which had been a much frequented resort for such birds as Song

Sparrows, White-throated Sparrows, and Juncos, was now entirely deserted. Turning from the path, and walking through a small growth of woods, a few Juncos, not more than a half dozen, flew from an old brush heap, which had partly sheltered them from the snow, and lit on a low thorn bush, only a few yards away.

Adjoining these woods is a low marshy field, commonly known here as bottom land, where Indian corn had been cultivated the previous year.

This land had become overgrown with crab, johnson and some other kinds of grasses the names of which I do not know.

At haying time the season was so wet that the grass could not be harvested, so it was left uncut upon the field; thus making a tempting feeding ground for all seed eating birds; but not a bird, not a vestage of a feather was found.

Winding in an irregular manner through the field is a ditch overgrown with briers, sumach, alder, elder, wild grape vines, and other kinds of growth generally found in kindred places. In the eastern side is a small cane brake covering an area of about two acres, while immediately beyond, the ground forms a slight incline or hillside, from which the underbrush has been cleared, making a high open wood.

In making a detour of this spot I failed to see a bird, and although I searched carefully for dead or frozen specimens not a single one did I find.

During the night of the 15th, it began raining, and on the morning of the 16th, the glass showed one fourth of an inch of rain fall, at 6 P. M. the thermometer registered 42 degrees, and though it had been cloudy throughout the day, the snow had melted very fast.

At ten o'clock on the morning of the 17th I heard the plaintive notes of a White-throated Sparrow. In a few moments afterward I saw several of these birds perched among the branches of the plum trees in my orchard. Tramping through the soft ground, and melting snow, I made my way to a swamp a short distance west of my home. Here I counted five Song Sparrows, one Cardinal, and one Towhee. On my return I passed through a low pine thicket where I saw three

Blue Jays. This completed my very weak horizen for the day. After this the birds begun to straggle back, but at least two-thirds of them failed to return, while a total disappearance of the Juncos was noted.

The 21st of the month was warm, pleasant and spring like. Making a tour through the woods upon this date I noticed a decided falling off again of the birds, particularly, those which are known as winter residents. This was no doubt caused by the entire destruction of nearly all plant life, thereby wiping out the food supply and compelling the victims to migrate to more favorable feeding grounds.

Everything in the shape of a leaf or a bird had been killed; the leaves of the cane which remain green throughout our severest winters, had been frozen and dangled like scalded strings from their stems.

The grasses in the swamps, and other moist places, where the birds not only found protection from the weather, but an ample supply of food as well, were lying flat in the mud and water.

It is remarkable that while the cold wave undoubtedly eliminated large numbers of birds, I did not in all my tramps discover a single verification of the fact.

A plausible reason for this might be that the birds foreseeing their coming danger attempted to escape to a better protected locality, many of them in their flight perishing from hunger and exhaustion. This theory is partly substantiated by an article (*Auk*, April 1899, page 197) written upon this subject by Mr. Arthur T. Wayne, of Mount Pleasant, S. C., who says in his article as follows: "To say that Fox Sparrows, and Snow-birds were frozen to death by the *millions*, is not an an exaggerated statement, but a conservative one." "There was a tremendous migration of Fox Sparrows, on Monday 13th, following the coast line of the mainlaind." "The Woodcock arrived in countless thousands." "Prior to their arrival, I had seen but two birds the entire winter." "Tens of thousands were killed by would be sportsmen, and thousands were frozen to death."

It is reasonable to suppose that these birds were driven to

the coast line by the extreme cold, coming down from the North to Charleston in very large numbers. After reaching that point, and finding no food to nourish them, many died of starvation, while others weakened by exposure to the cold, fell an easy prey to the vandal hands that sought to destroy them.

A short time after the occurence of the cold wave, I endeavored to obtain some information regarding it from other parts of the State.

I am sorry to say that the details were meagre and unsatisfactory. Out of about a dozen letters written, only two were answered, and these answers came in an indirect manner through the efforts of a minister of Kirkwood, into whose heart I had instilled a very weak solution of enthusiasm on birds.

ROBT. WINDSOR SMITH, *Kirkwood, Ga.*

THE REDPOLL ACANTHIS LINARIA IN SOUTH CAROLINA.

I have seen the Redpolls once more. When I was a small boy, in the days of my box traps and flintlock musket, they, with the Chickadees, were among my intimates at the woodhouse door or over "back of the sandbank" in the coldest corner of old cold Massachusetts. A Tree Sparrow or two, a Nuthatch or a Blue Jay, about filled the bill for that favored afternoon, as a general thing. The rediculously tame Grosbeaks, parroty Crossbills, and skimmering Snowbirds were episodes; our Redpolls and Chicadees quite every day affairs.

Now all is changed. The snow and the cold, except on rare occasions, are things of the past. When they do come along as they did last week, they are merely reminders of the pleasanter episodes of the past; and the little boreal bird or two that gets swept along in the bitter blizzard to find a few days rest in our sparkling sunshine, I hope, will carry away a happy thought of his sojourn about our Barrack Yard in exchange for the wholesome pleasure he has given me.

This is a regular bird paradise. We have hot enough at times for any tropical bird, besides having the fag end of a blizzard

every year or so for the accommodation of the other sort. As for food, why bug or bean, fish or fly, can be had at most any time with a minimum search. But my fate is to be aboard ship most all the time, where I see only Gulls and hear the migrants at night. There are, to be sure, certain regular morning and evening callers, but they do not tarry long enough to become individual acquaintances. Just now I am boarding with the marine guard, so I go through the Navy Yard every day and am sure of seeing at least a pair of Mockingbirds and a Loggerhead Shrike or so, everytime. About the wharf sloops the English Sparrow has full possession. Between the bell tower and the marine barrack yard is quite a wide bit of sandy, wind-swept ground, mostly built up by dredging from the bed of the river, A few tufts of ragged unkept grass and some sturdy weeds do not as yet offer an excuse even for covering but just stand where they are and make most of their headway in the lee of the barrack yard fence. Here congregate quite a nice little colony of our winter Sparrows—Savannahs, Songs and Vespers, mostly. In wet weather a Swamp or two, and more rarely a Sharp-tail, from across the road that heads down to the naval hospital, there is salt marsh on that side and the Clapper Rail is supreme.

Coming to the gate the other day—February 23rd—I found a cat in the thickest clump of grass and as she fled from the usual brick bat, for all such cases made and provided, among the little Sparrows that skittered startling out was a lovely Redpoll. I saw him on a move next morning. Now it is warm again and he is off and far away I hope. I thought I saw the cat once since then and when I hove the brick a small goat got up and looked at me leisurely. How old and blind I am getting, I could not tell a goat from a cat and then could not hit it.

W. J. HOXIE, *Beaufort, S. C.*

SPRING HORIZON, NEAR LYNCHBURG, VA.

April 26th, 1901,—Grasshopper Sparrow, Red-headed Woodpecker, Yellow Warbler, Chimney Swift, Barn Swallow,

Purple Martin, Flicker, American Goldfinch, Phœbe, Towhee, Bewick's Wren, Carolina Wren, Mockingbird, Brown Thrasher, Vesper Sparrow, Carolina Chickadee, Golden-crowned Kinglet, Ruby-crowned Kinglet, Blue Jay, Song Sparrow, Savannah Sparrow.

April 27th 1901,—Bachman's Sparrow, Praire Warbler, Pine Warbler, Myrtle Warbler, Blue-grey Gnatcatcher, Cardinal, Black and White Warbler, Rose-breasted Grosbeak.

April 29th, 1901.—Bewick's Wren (a nest of this species was found ready to receive eggs,) Red-eyed Vireo, Wood Thrush, Hermit Thrush, White-throated Sparrow, Oven-bird, Yellow-throated Warbler, House Wren, Spotted Sandpiper, Bank Swallow, Mockingbird (a completed nest of this species was found.)

April 30th, 1901.—Warbling Vireo, Red-eyed Vireo, Blackburnian Warbler, Magnolia Warbler, Cape May Warbler, Maryland Yellow-throat, Orchard Oriole, Nashville Warbler.

May 1st, 1901.—Yellow-breasted Chat, Crested Flycatcher, Belted Kingfisher, Solitary Viree, Great Blue Heron, Rough-winged Swallow, Parula Warbler, Kingbird. Bachman's Sparrow (saw two of these birds at close range, making the second time I have met with the species this season)

May 8th, 1901.—Wilson's Thrush, Ruby-throated Humming bird, Baltimore Oriole, Blue Grosbeak, Chestnut-sided Warbler, Black-throated Green Warbler, Blackpoll Warbler, White-eyed Vireo.

JOHN W. DANIEL, JR., *Lynchburg, Va.*

CARDINAL, CARDINALIS CARDINALIS.

Perhaps to many people the Cardinal while not a rare bird by any means is not met with frequently in a walk, because of its retiring nature. When singing from some conspicious branch above the thicket it will send its clear ringing whistle that can be heard for quite a distance.

Near Bristol are five different localities where the Cardinal can be met with at any time, while at two of the five can be seen both male and female.

A large swamp which begins at Bristol and extends for

about five miles back in the county in a North East direction, is a favorite locality for them and they can be found at different places along the swamp. None of the places are further than four miles in a straight line while one pair breeds in a swampy thicket on the outskirts of the town, a most unfavorable locality as it is bordered by a large Woolen Mill and the Railroad. The other four places are further in the country and are very secluded.

With a pair of Field Glasses the Cardinal can be seen at a great distance in winter, and recognized at once by his brilliant plumage and crest. If he thinks he is unobserved he will sing his melodious whistle with some notes not unliko the Carolina Wren and Crested Tit, a strange coincidence of three birds being so similar in range, voice and habits.

Although no nests have been found of the Cardinal around here, I am certain that it does breed.

In spring and summer when the birds are abundant, the Cardinal while noted on a walk is apt to be slighted for the other birds which are around in such profusion. Whereas in winter when the other birds are few and far between, the Cardinal has to be seen to be appreciated, when his brilliant color against the white background makes a picture not easily forgotten.

THOMAS D. KEIM, *Bristol, Penna.*

THREE DAYS WITH THE WARBLER.

Ever since I became acquainted with the nesting habits of our local Warblers, an almost irresistable impulse annually leads me to familiar woods, swamps and old pastures, if only for a few hours stolen from more important duties, to ascertain if our representatives of this interesting family have once more returned to their old breeding grounds. If by chance the ground has been burned over or cleared by means of the knife or ax, I am much cast down and again correspondingly elated if a hitherto vacant fence corner or bit of wooded hillside be tenanted. Late in the morning of the 27th of May, in a reconnoitering mood, I took a walk to the nearest wooded hill-

side. Failing to locate the nesting place of a pair of Worm-eating Warblers in the Oak Bottom, although they were chipping about an excellent place for a nest, I next searched the Black Swan Patch for the Blue-wing Warbler without success. Just back of this half acre on a wooded hillside facing east, I located a Worm-eater's completed nest. I twas under huckleberry sprouts close to path. A pair of birds have nested within a radius of less than fifty yards on this hillside ever since 1895 to my knowledge. This nest contained five eggs of the owner and one of the Cowbird by June 3rd. At the foot of the same hill, between the creek and public road, I heard a slight rustle in the leaves and observed a Kentucky Warbler steal away from her nest at the foot of a spicewood sprout, some yards away. Although in a comparatively clear and open spot, the nest was well hidden. Here again the Cowbird had imposed upon the owner and she had but two eggs.

In the afternoon I watched two or three pairs of Kentucky Warblers for awhile. The ravines above the Iron Ore Hole appeared uninhabited by the Worm-eater, which is not at all surprising. In former years I have known three separate nests to have been built and destroyed in a fortnight. Red squirrels or mice were the probable disturbers. Further down to another small ravine, I almost stepped upon the nest which was under a huckleberry spray. I was looking along the bank which is scarcely four feet high, when I heard a rustle at my left in time to note the Worm-eater trailing up the opposite bank. The location was a puzzle for a momont when I found it at my feet on level ground. It contained five eggs. The Maryland Yellow-throat had her nest in a clump of wild plants at the edge of an oozy bog in the midst of Latch's Swamp. The two eggs were subsequently increased to four. The three pairs of Blue-winged Warblers inhabiting this place eluded me. I doubt not but that many more fledglings are raised in this swamp since I shot the head off of an immense black snake which disputed with me the right to a narrow path. Why is it that almost all creatures destructive to injurious rodents are equally hard on nestlings ?

May 29th seen me in the woods at 6.30 A. M. An appar-

ently thorough search of strips of woods near home failed to reveal Worm-eater's nest, although the male was singing close to hand. Another fruitless search on the steep hillside opposite Laurel Lodge where male was heard singing, took up much of my time. In this overgrown pasture hillside of Beaumont Farm I heard three male Blue-wings singing. While I was ascending path a male hovered over some saplings, some twenty feet below nest as afterwards learned, but flew away on seeing me. Female chipped in a desultary fashion from low bushes immediately surrounding nest which was but ten feet above path. The male pursued another male, and after all was quiet, I flushed the female from her nest and five eggs at the foot of some cherry sprouts and surrounded by blackberry sprouts and grass. The entrance was up hill and away from the path. The female kept within three or four feet of me, and with elevated head feathers, spread tail and drooped wings, chipped loudly. The male kept six or eight feet away. After I had retired a quick chattering series of chips followed. I failed to locate any more here, likewise Kentucky at edge of woods and Worm-eating on hillside opposite, where I had hoped to find the Black and White Warbler nesting.

On down the new road to the Higg's Hollow where I heard another Blue-wing singing away back beyond a field. The roadside looked so near the ideal resting site that I was tempted to investigate. The male came over and sang from a treetop above my head. I soon flushed the plump little female from her four eggs in clump of wild astors, within a foot of the wheel track of the much frequented public thoroughfare. A very close approach on the roadside did not disturb her as she had probably schooled herself to put up with some annoyance on that side. However when startled she proved wild and the mate at once retired to first position. This nest as the first, was made outwardly, of sedgegrass. My movements evidently excited the suspicions of a colored woman residing in a tumbled down log house across the creek, for after a series of halloos which only a full-blooded negro can utter to perfection, and an answering halloo from unseen female drifted down from some little stump lot in the chestnut timber; she whooped "Come

dow-own ! It's *aw-ful* lonely he-re !"

A Yellow-breasted Chat's nest in clump of blackberry bushes, contained a punctured egg, This species will tolerate no interference; to look at the nest often means its desertion after the destruction of the contents. I was fortunate in discovering a completed nest of the Kentucky Warbler in middle of abandoned cartroad in the woods overlooking the Valley Baptist Farm. The nest was betrayed by birds, in five minutes watching. It was placed at foot of blackberry bush in bunch of growing Spanish needles. Contained four eggs a few days later.

Early in the afternoon I found Ovenbird's nest and four eggs near the top of the Lithia Spring Hillside. It was under a huckleberry sprout. Near the Birch Woods I found a rather deep cupped black rootlet and hair lined nest between oak sprouts at the top of the hill. It looked more liked the work of the Black and White Warbler than that of any other bird I am acquainted with. However it was never occupied, though the Black and White remained in the vicinity. Kentucky's and Blue-wings galore but no more nests this afternoon.

May 30th, Decoration Day ! Not many ornithologists miss this as a field day. I made a long search, for the nest of the Black and White Warbler heard singing on Laurel Hill, but without success. A nest of Chat found in cedar with single egg of Cowbird, evidence of a broken egg also. Nothing of note until I struck abandoned field beyond Cedar Woods. The Blue-wing singing from a small tree at a most inviting corner next to Prissy's Hollow. It was overgrown with clumpsof golden rod, raspberry bushes, and grass. Female flushed and kept at a distance. This species is a hard setter. Five eggs of a very interesting type in a frail nest very unlike yesterday substantial structure.

A hard hillside tramp of several hours followed, but no Worm-eaters located, although many heard singing, as well as several Black and White Warblers. The wild song of the Louisiana Water Thrush missed from it last years haunts. A brier surrounded dogwood cratch supported the nest and three eggs of a Chat.

My most remarkable experience was not in the oological line,

I had stopped a moment to look at the remains of an old cellar, lightly tapping the sill with a cane. The bottom was heaped up with small stones, brush, stumps, and tin. Suddenly a head popped up followed by the body of an almost full grown Weasel; then another and another until four of these graceful animals were passing in, out, and around the rubbish, frequently sniffing with erect heads in my direction. Evidently they scented warm blood. Presently one of the largest ran up a large stump and into the poison ivy at my rear, only to reappear, boldly sniff my heel and nip me in the ankle. A slight movement on my part sent it scampering under the bushes for a moment before returning to circle my feet.

Doubtless they would prove formidable enemies if a person was asleep or disabled, and in company with their parents they must kill a great many rodents, birds, and domestic fowls; still I enjoyed witnessing the graceful movements of their sleek bodies.

On my holiday drawing to a close, I find that my three days wanderings were confined to a section a quarter of a mile wide by a mile and half long. Such is the exacting labor of any one who follows the Warblers to their homes.

FRANK L. BURNS, *Berwyn, Penna.*

GENERAL NOTES.

A NEW BIRD FOR LORAIN COUNTY, OHIO.—On the 9th of May, during our 'All Day with the Birds,' Rev. W. L. Dawson and the writer happened upon a fine individual of Hooded Warbler (*Sylvania mitrata.*) The song attracted our attention at once upon entering the edge of the woods, and soon the bird was described perched upon a small tree some twenty feet from the ground, where it remained until long after we had recorded its song and gone on. Later we heard the song again, apparently from another individual, since there was an intonation not observed in the song first heard. The bird was in full plumage, the black hood showing in marked contrast to the yellow of the forehead. To my ear the song was different from that of any recorded

song I have seen. I have represented it thus: *tu wee tu wee te cheu*, the accent being on the second and fourth syllables which seem about a third higher than the short, staccato first and third syllables, the fifth being still higher and short, while last is a rapidly falling inflection. The song was a clear whistling, unmistakable song. The bird sang at intervals of about fifteen seconds during our study of it.

LYNDS JONES, *Oberlin, Ohio.*

PASSENGER PIGEON, *Ectopistes migratorius*.—A small flock of eight or ten Wild Pigeons were seen flying over Beaufort river on the morning of March 18th at ten minutes before 7 o'clock. The birds were about fifty feet up and flying a straight course to the Southeast when I saw them. Two other persons, both of them "old stagers," also observed them, and separately mentioned it to me before I had a chance to tell them.

W. J. HOXIE, *Beaufort, S. C.*

POTTAWATTOMIE NAMES FOR THE AMERICAN CROW, *Corvus americanus*.—I have a valued letter from the late Chief Simon Pokagon, from which I extract the following: Our people in Michigan know almost nothing about the *Awn-dayng* (Crow,) until the white man came amongst us. Hence we called it the *Wan-be an-ne-ne-g me-che-maw-kaw-te-Pe-nay-shen* (The white man's big pluck bird)." So much for the Crow's dislike of unbroken wilderness, and its boldness in attacking larger and savager birds.

FRANK L. BURNS, *Berwyn, Penna.*

SONG OF THE KENTUCKY WARBLER *Geothlypis formosa*, A CORRECTION.—On page 47 of BULLETIN No. 30, WARBLER SONGS, an unfortunate transposition has occured in the description of the migrant and breeding types of song of this locality. I have heard the song of the supposed migrants from the first arrivals only, on semi-occasional early morning visits to their haunts, and it was soon displaced by the regular breeding song of later arrivals. The first and rarer song should be: *Too-dle too-dle too-dle too-dle*, exactly as described in Chapman's Handbook. The breeding song for this locality is: *peer-ry peer-ry peer-ry*, often *chee chee chee peer-ry peer-ry peer-ry*, delivered in a clear whistle as described by Professor Jones. I have found

that is more often uttered from the ground than above it, having watched it for hours together walking, running and feeding amidst the ferns, mandrake, skunk cabbage and spicewood.

FRANK L. BURNS, *Berwyn, Penna.*

AN OPEN QUSTION.—Is there anything like morality among the birds? Have the birds any genuine sense of obligation where other birds are concerned, or does might make right with them universally? These questions have been chasing each other through my mind of late, and have failed to find an answer. The other day, as I sat in the edge of the woods rather idly watching the tree-tops for the Warblers, the actions of a female Redstart arrested my attention. Instead of feeding it seemed to be peering about in an anxious manner as it gradually ascended from the lower branches of a large oak tree. Some fifty feet up among the branches it stopped in its upward course and circled the tree trunk, always with the same anxious. air. Suddenly it plunged into the midst of a spreading thicket of branches and began working madly at something, which, upon closer inspection, proved to be a half completed nest of a Yellow-throated Vireo. Mrs. Redstart was frantically yanking fibers and cobwebs from the outside of the nest, and soon darted down into the shrubbery with a mouthful of the stolen material for her own nest. I have many times seen birds destroy old nests for the material which was used in making a new one, but in only a few instances have I seen such robbery as this.

LYNDS JONES, *Oberlin, Ohio.*

THE WESTERN GROSBEAK, *Coccothraustus vespertinus montanus*, IN COLORADO.—The evening Grosbeak is referred to in BULLETIN No. 34, as a rare bird. I made its acquantaince (the western form) for the first time this year, and in such numbers as to raise a doubt of its rarity. Walking down a street near Mapleton Hill, Boulder. Colorado, in February, I was startled by the discovery of a dozen of them in a small tree. They were apparently very hungry, searching the tree for food, paying no attention to me, though many of them were within six or eight feet of me. Afterwards I saw them daily for several

weeks, on two more occasions more than 100 at a time, once in West Boulder and again on the court house lawn, in the center of the city. I shall eagerly hope for the return of this interesting bird, which is now deemed a resident of Colorado, having been noted every month in the year.

JUNIUS HENDERSON, *Boulder, Colo.*

SNOWFLAKE, *Plectrophenax vivalis.*—We had a visit this Winter from the Snow Buntings. We first saw them on Thursday, February 14; and the last we saw of them was on Thursday, February 28. Almost every day during those two weeks the beautiful creatures fed on the weeds in front of our house. They would be feeding by sunrise and continue until toward noon when usually they would fly away, returning about three o'clock in the afternoon, when they would continue their musical twittering, which was almost like song, and their feeding until after sunset. Most of this time the weather was cold, the thermometer ranging between five and twenty-five above zero.

They did not seem to mind me except when I would raise my field glass, when they would utter a complaining call, rise a little above the weeds and fly several yards, drop and resume their twittering and feeding. One day when I had followed them up and down the field for some time they seemed to grow impatient, rose with a wheeling undulating flight high over a house, swept across the street and began to sing in a high sweet flute-like tone "*tsi-a-wee-ee-ee.*" Then, still singing, they wheeled again and after hovering silently a moment over the weeds, dropped down upon the snow and went to feeding and chirping.

Another day I heard the song when their spirits were undisturbed. It was on a brilliant day when the snow was just beginning to reflect on the sunset glow. I was crossing the field some distance from where they were feeding when all at once several birds rose from the flock soaring high into the sky and pouring forth such a rhapsody as well fitted the glory of the setting sun. It was so full and sweet that I could only drink in its beauty, I could not analyze it.

MURIEL KINNEY, *Cleveland, Ohio.*

AN ALBINO TOWHEE, *Pipilo erythophthalmus*.—On the 5th of March Mr. John Timmons of South Kirkwood, shot an Albino Towhee and kindly presented me the specimen. The bird was found in company with others of the same species, in a brush heap on newly cleared ground on hillside adjoining a swamp, about one half mile from Kirkwood Station, on the Atlantic Power Electric Car Line. The stomach contained fragments of some minute undetermined coleoptera, two small pieces of acorns, some tips of the seeds of the Tulip tree, or Yellow Popular, as it is commonly called in the South, and a quantity of small white gravel. The condition of the body after the removal of the skin appeared to be normal, with no indications of malformation or desease. Directly under the wings, the neck, entire length of the back, a decided pink tint was appreciable, while the fleshy portion of the breast was the usual color of other birds of the same species; the inside of the gizzard showing the same pink cast of the other parts of the specimen.

Throat, breast and upper part of abdomen, white; a light chestnut brownish cast on lower part of abdomen, and underneath the tail, this color showing on each side of the breast from the bend of the wing, merging into a smoky white on the thighs. Wings a grayish brown with the usual white markings peculiar to the species. Under parts of the tail feathers grayish brown, with white on the lower parts of the inner webs of the first three, the four central feathers white, showing conspicuously from above. Forehead dashed with spots of light chestnut brown, but darker than the brown on the other parts of the specimen. Rest of head and entire upper parts white, with a few light chestnut brown feathers immediately over the rump. Ten feathers in the tail. Bill black—eyes black—feet brown. Length 7,00, wing 3,25, exposed culmen 0.50, Tail 3,25. Measurement in inches before removing skin.

ROBT. WINDSOR SMITH, *Kirkwood, Ga.*

EDITORIAL.

As results and not mere promises are most satisfactory, we can only regret the evidences of careless proof-reading in our last issue, and hope for better results hereafter. A better grade of paper will be used, and with aid of members and subscribers, a magazine more and more worthy of patronage and preservation will be attempted. The many expressions of confidence and encouragement are appreciated. For lack of space in this issue, an article of some length, entitled "All Day with the Birds" by Lynds Jones, is defered until next number. All desiring to contribute articles or items of interest for the August number, are requested to do so at an early date, as the last number to the volume will probably be a special, devoted to bird census entirely.

Do not neglect to comply with Professor Jones request for migration notes for the dates he names, any season or as many years as possible. It is a disappointment to us also to have so few reply to suggestion appearing in May number, in relation to predominate color phase of Screech Owl. The educational value of looking over and rewritting old and scattered records is not the least of the benefits derived by the amateur ornithologist in co-operation study.

The propensity of the Blue-winged Warbler *Helminthophilv pinus* to form "misalliances, or in other words, to mate with individuals of other closely related species, is again examplified; this time in connection with the Nashville Warbler, *H. ruficapilla*. The instance related in this issue by Mr. Hollister, is I believe, the only record of crossbreeding by the latter species. With *H. pinus* if has been otherwise. It has been long suppected; and at irregular periods there have appeared accounts in the *Auk* from which one may gather apparently conclusive evidence of its interbreeding with the Golden-winged Warbler *H. chrysoptera*, Brewster's Warbler *H. leucobronchialis*, and probably the Kentucky Warbler *Geothlypis formosa*; Lawrences' Warbler *H. lawrencei* being considered a hybrid or mongrel of the first and the Cincinnati *H. cincinnatiensis* of the last.

Next to taking collecting trips ourselves, we all doubtless enjoy reading of the projected trips and work of others. We give herewith a brief summary of the plans of several of our most active members and would be pleased to hear from the others from time to time.

In addition to a special and exacting work on bird census which he has undertaken, Mr. Benj. T. Gault is preparing a list of trees and shrubs of the county to be used in connection with the forthcoming "Flora of Chicago and Vicinity" by Prof. Highley of the Chicago Academy of Sciences, Lt. John W. Daniels, Jr. proposes to spend a few weeks in the Blue Ridge mountains to investigate the summer birds of the Peaks of Otter (4000 feet) region. This section has never been investigated by an ornithologist, and many species of the Canadian fauna may be looked for as summer residents and breeders. Mr. Robert Windsor Smith is already hard at work on a sectional bird census about his home in Georgia. We may look for an interesting report in which he will doubtless treat the subject in his usual thorough manner.

President R. M. Strong is about completing a postgraduate course at Harvard University where he has done a great deal of biological work. With increasing leasure we hope to hear of him in the field once more. Of Professor Lynds Jones, we can truly say that he is always busy, for in addition to instructing a class of over sixty students in ornithology, and other regular college work, he finds time to take almost daily horizons and incidently add to his knowledge of the birds of Lorain county. Ohio. It is confidently predicted that a few more seasons of such persistent labor will enable him to pretty accurately "guess" the feathered population summering, as well as wintering, in that county.

A SUGGESTION FOR WORK.

When our study of the birds has carried us beyond the period of merely learning to recognize the different species, we begin to look about for something more to learn. Naturally the

next thing is to become familiar with the life of the bird by personal acquaintance. Clearly the only way to do this is to get among the birds where they live. They soon become fellow beings to us, in their daily life showing most of the human characteristics. Few of us can hope ever to know the individual birds apart, but all of us can enter, in greater or less measure, into acquaintance with many individuals about us while they are rearing their young.

There is no better way to become familiar with the birds than to pursue a course of study that will keep the birds before us every day, if possible several times a week at least. This sort of study need not be one which necessarily consumes much time, but may be planned to occupy all or but part of one's daily leisure or time for recreation. But this leisure time, if it is to count for much, must be definitely planned. Something will be accomplished if we aim at the most general and cursory notice of what birds are seen, but with a definite plan in mind the result will be far greater and withe greater expenditure of energy. One good definite plan may be the making of a census for some limited area. Few of us are so closely hedged about that there is not some small area which can be compassed successfully with but little effort. Let me make a few suggestions about census taking.

In the first place, a carefully made census of a known area, however small, for a definite limited time when there will be no change in the bird population, will furnish a fairly exact basis for comparison in the years to come when we need to know whether or not the birds are decreasing and at what rate. It will also furnish a basis for estimating the whole bird population for a large number of similar areas. In the second place, it will furnish the basis for determining what changes, if any, may be brought about it the habits of birds due to environment where the conditions are constantly changing. In the third place it will furnish us with a definite purpose for our work, and so give to the work a greater interest, and in this way keep us alive to many other things than the census which are sure to pass in review before us. They are surprises for the most advanced ornithologist when he least expects them. In the

fourth place, when many persons have completed a census in many different places and under many different conditions, we shall have an excellent basis for determining the bird population for large regions of country, if not finally for the whole country. And this determination, which has never yet been attempted even approximately for even a single species, will tell us, broadly, what may be the fluctuations in the bird population as the years pass. With all this will naturally go the determination of the causes of decrease, where there may be any, and the best methods of encouraging an increase where it may be advisable.

I have several times before urged the need for such work now before primitive conditions have wholly, passed away, before the advance of the irresistable tide of human changes, and I wish to urge again, with all the earnestness at command, entering upon this line of work at once. None of us are so hedged about by other duties but a little time can be devoted to census taking for some small area, and now, while so many of the birds are occupied with family cares, and are consequently 'at home', is the time to begin the work. Let the first attempt be in your own door-yard, if you prefer, only let it begin. You will be ready for a larger field when you have finished that, and you will then be better able to plan what you have to do. Let your work include only those birds which have a nest in the chosen area, counting two for each nest, of course. If a pair of birds probably have a nest in the area, but you are unable to find it, these may be counted also.

You may be in search of an area larger than the door yard. If so, the more representative one you can select the better. The ideal area would be one which included a little of every sort of country in the region. Let me caution you not to be too ambitious in the selection of an area. Let it be small enough so there will be no possible question of your covering it in a reasonable time before it becomes an irksome task. You most not let you recreation become a wearing burden.

Again let me caution you to be careful what birds you record in this census. Not every bird that sings on your chosen plot can be considered a resident of it, but a little attention will

tell you what birds should be counted as residents. You want no 'Floaters' in your count, for they belong somewhere else and would then be counted twice. If young birds of the year are counted they should be designated as young.

There is no need to complete the census in a single day, nor in a week, if care be taken to avoid duplicating records. A little practice will enable you to carry on the work at odd times successfully. You need only to keep a careful record of all work.

When your work is completed, if you will send it, with a specific description of the area chosen, with your name and address, to the address below, it will be incorporated in a general report of work done in many different places with the deductions that may be possible.

LYNDS JONES, *Oberlin, Ohio.*

FURTHER SUGGESTIONS FOR THE TAKING OF A BIRD CENSUS.

In the above communication, Professor Jones impresses upon our minds the importance of general utility of any well taken bird census; he also offers many valuable suggestions as to the mode of procedure, and a few words of caution; valuable to any one who may decide to take up this novel and all-absorbing branch of field work.

The writer has been engaged in the enumeration of the avian population of a stated district for several years past. The outline of the work he has blocked out, may prove of interest to many, as it fills out in a measure the details omitted by Professor Jones. A correspondent has remarked that it necessitates scarcely less than a biological survey of the section studied, but it is not intended to be strictly so, only the most numerous and familiar plant and animal life havingan important bearing upon the presence, obsence, increase or decrease of our birds need be taken into consideration.

1st. Map out a tract of land one square mile (640 acres) most readily accessible and if possible containing a fair proportion

and representation of the flora and fauna with the natural surroundings (upland, swamp, creek, ravine, wood, thicket, clearing, meadow, cultivated field, neglected field, orchard, lawn, etc.) of the neighborhood or county. Where it is fouud impossible to unite so diversified an area, separate sections may be mapped out in proportionate blocks.

2nd. Description of the topography of section studied. The altitude, latitude and longitude. Mean and extremes of temperature for the breeding season. Humidity, etc.

3rd. Enumeration of the characteristic plants, fruits, grain, nuts, insects, fish, reptiles, mammals, etc., indigenous to district, also those introduced by man directly or indirectly, which may be regarded as foods, enimies or competitors of the birds, and which according to their scarcity or abundance might effect the increase or decrease of the avian inhabitants.

4th. Presence or absence of natural or artificial nesting sites, shelter or cover, in connection with the numerical abundance of certain species of birds.

5th. Enumeration of the number of individuals of all species of birds summering or breeding within the specified limits, by means of "horizons", song of males, the location of nests, and any other way possible; verifying records by a careful search for nests after the leaves have fallen, not losing sight of the fact that some species build two or more nests in one season.

FRANK L. BURNS, *Berwyn, Penna.*

MIGRATION NOTES WANTED.

Last year I called for migration records for early May, but the responses were so few that no table for the bird movements of the first five days could be prepared, I again make the call for migration records for the first five days of May, and earnestly solicit the records of a every reader of this notice. The records of a single year will be acceptable, but I desire such records of as many years as can be given. I particularly wish records of "first seen," but "next seen" and "common" would also be very acceptable.

Address, LYNDS JONES, *Oberlin, Ohio.*

PUBLICATIONS RECEIVED.

Birds of Springfield and Vicinity.—By Robert O. Morris. The town of Springfield lies on the Connecticut river but a few miles north of the dividing line between Massachusetts and Connecticut. In the preparation of the work the author passes over well beaten ground. From this very place the Rev. Wm. B. O. Peabody, Dr. J. A. Allen, F. H. Keys and W. W. Colburn, have enriched our ornithological literature; while Messrs. Emmons, Clark, Waters, Hoffman, and Drs. Merriam, Wood, and Faxon, have also done more or less work within the territory covered by the present volume. It has all appearance of having been done in a most through manner. The style is easy, direct and pleasing; many very valuable facts are related in an unassuming manner, and the description of the surrounding country is particularly fine and easily comprehended. 254 species and sub-species are recorded, all of which, with the exception of less than a fifth part, have come under the writer's personal observation. To the above he adds 4 species of probable occurence but excluded from insufficient evidence; 5 introduced species, but one surviving—the ubiquitous and ever increasing European House Sparrow; and finally 2 extirpated species—the Heath Hen and Wild Turkey.

A work of this kind bespeaks long experience, and Mr. Morris is to be congratulated upon the fact that the elegance of his diction is further embellished by the work of the publisher.

[F. L. B.]

A Quantitative Study of Variation in the Smaller North-America Shrikes.—This quantative study of variation to determine the status of a sub-species of birds, by our President, R. M. Strong is a pioneer in the application of an exact criterion for the determination of specfes and sub-species. There is no little objection to this quantitative method of study from one quarter and another, for no very good reason we can see. Manifestly no other kind of study can bring us exact results. A quantitative study is possible only when a large amount of material is available from many different regions, and this is

another argument in favor of employing such a method, for it is only by means of a large number of specimens that exact results can be arrived at.

The paper is based upon the study of 294 skins from all parts of the country, the extreme north being, apparently, not so well represented as the middle portions of the east and west, while the south Atlantic states furnish a large proportion. While a larger amount of material would have been desirable, it is doubtful whether the results would have been perceptibly different.

Under the caption 'Methods,' the author says 'No attention has been given to the subspecific distinctions appearing on the labels of skins, for I have considered it important to avoid all possibility of bias of opinion which attention to previous classification might give.' It is interesting to notice, in this connection, that the variations which this exact method of study brings out correspond with the life zones, so that the author is led to the conclusion that Mr. Palmer's subspecies, *migrans*, which is the north-eastern form, is as worthy of recognition as the California form, leaving to the reader the right to pass judgment whether or not the variation shown is sufficient to warrant the creation of these two forms. Since there has been no effort to establish a percentage of variation which shall mark the bounds of sub-specific distinctness in the direction of mere geographical forms or minor races, all power remains vested in the A. O. U. committee on the revision of the nomenclature. While we have no reason to doubt their fairness and ability, the adoption of some precise criterion of sub-species would materially aid them in this work.

The paper is intended simply as a description of work begun in the fall of 1898, carried on at Harvard University and and completed during the winter or 1899-1900. It is necessarily technical in nature and presentation, and it shows a great amount of painstaking investigation. [L. J.]

Abstract of the Proceeding of the Delaware Valley Ornithological Club of Philadelphia. This flourishing society has successfully passed through the most critical period of its existance

and entered upon its second decade of usefulness. Such well known ornithologists as Witmer Stone, Samuel N. Rhoads, Thomas H. Montgomery, Jr., Charles J. Pennock, George Spencer Morris, William E. Hughes, and others, are numbered in active membership; and like the esteemed A. O. U. is well balanced by a long list of associates. The Club is doing good work in keeping alive the interest in local ornithology and preserving many of the most important Pennsylvania and New Jersey record. No. III contains a summary of the proceedings for the years 1898 and 1899. This pamphlet of 28 pages is brimful of interesting notes and records. Many of the members have had more than local experience as collectors, which together with the local news and observations, and the almost inexhaustible collections of the Academy to draw upon; serve to make the meetings a great source of pleasure and profit to those of regular attendance. To hear the personal experiences of ornithologists but recently returned from Yucatan, Greenland, Alaska, and other remote places, adds the larger measure of reality so often lacking in a printed page. Edward A. McIlhenny's account of the nesting of the Snowy Owl at Point Barrow, Northern Alaska (as many as sixty nests being found in one day) is of peculiar interest. The following papers have been revised and published in full: "Birds of the Blizzard of February 1899." "Migration Data on City Hall Tower." "Summer Birds of the Higher Parts of Sullivan and Wyoming Counties, Pa." No. IV is for the year 1900. We note among the dates and localities of the more important records, the addition of the Chestnut-sided Warbler, *Dendroica pensylvanica*, to the list of breeders in Chester County, Penna., by the well known oologist, Samuel B. Lodd. The following papers are given intact: "Some Observations on the Habits of Crossbills (*Loxia C. minor*) Observed at Hanover, N. J., May 4-6, 1900." "Recent Capture of Ivory-billed Woodpeckers (*Campephilus principalis*) in Florida." "Bird Language an Index of Family Relationship." Outside of the peculiar medley produced by the careless use and disuse of capitals in the common names of birds, in one of the articles; this pamphlet is equal to its predecessor in neatness.

[F. L. B.]

ALL DAY WITH THE BIRDS.

This is to record the third attempt to find the best day of all the year for the birds in Lorain County, Ohio. Our first all-day horizon was for May 17, 1898, with a list of 102 species; our second, May 8, 1899, 112 species. Two attempts at an all-day horizon were made in 1900, May 5 with a list of 93; May 19 with a list of 100; but these were so far below the previous records that they have not been counted seriously with the others. Besides, Rev. W. L. Dawson and the writer have been the participants in the 1898, 1899 and 1901 records, and these should be compared rather than last year if the work is to be on the same footing.

The greatest drawback to a work of this character is the inability of persons situated as we are to take advantage of the most favorable day. On the contrary, May 9th was decided upon as the day for this piece of work at Christmas time—four months previously—because that was the only time when both could leave our work. But such disappointments serve only to whet our appetites for the years to come. It is the large record on an unfavorable day which furnished the excitement of the chase. But there were other considerations which made the day close at 2.30 P. M., so that the present horizon is scarcely more than half a day long.

We were in the field at 4 A. M., pushing out to the woods which has yielded up so many rare species. A thick fog threw a shroud over everything beyond a hundred feet, saturating the grass and foliage. The season was so backward that none but the soft-wood trees had ventured to put forth leaves, thus affording an unobstructed view into the tree tops. By 7 o'clock the fog had risen into fleecy clouds and the temperature risen from

56 degrees at the start to near 70 degrees. Bird voices filled every cubic centimeter of air, and our spirits and hopes rose accordingly. Just in the edge of the woods an unknown song occupied our attention for full fifteen minutes, until the singer gave us a full view of his yellow body and shining black hood—Hooded Warbler. He is the first of his species for both of us, and an addition to the county list. In another part of the woods we stumbled upon a pair of the rare Golden-winged Warbler, apparently in search of a dwelling place. While we were at breakfast another Golden-wing sang for us from a bush hard by.

At 8 o'clock we left the woods and pushed on for the lake shore and its swamps, picking up several species by the way. While there were surprises in the appearance of some species which we had not reason to expect, there were also disappointments in the absence of many which there was every reason to expect, so that the outcome of the day's work was in considerable doubt. The way some unusual species had of coming out to show themselves at just the right time for us to record them became not simply encouraging but even amusing. No doubt the foggy morning had something to do with that condition.

At the lake shore the American Herring Gull was the only bird to be seen which might not have been found elsewhere; but the swamps graciously yielded a plentiful crop of interesting species. During lunch our list grew amazingly. The birds seemed to focus their attention upon us in spite of ourselves. There can scarcely be a doubt that several more species would have been seen here if there had been time to beat about for an hour or two longer. The field was by no means exhausted when the hour for returning came. But in spite of the limitations the list numbered 109 species for the day's work, falling but three below the best record.

A scrutiny of the appended list will show that of the 109 species but eleven are water birds, and of the eleven only five were seen outside of the distinctively Oberlin fauna. The list includes seven birds of prey, four out of the six woodpeckers, seven flycatchers, but thirteen sparrows, but four of the six swallows, all four vireos, twenty-one warblers, and all but one of the thrushes.

Of the species recorded on May 8, 1899, 20 were not seen this year, and therefore seventeen recorded this year were not seen in 1899. It is interesting to notice that this difference of species lies almost wholly in the unusual species and that the difference in the seasons seems to have little effect. This list is smaller chiefly because less time could be given to the work, not because some of the later migrants had not yet arrived. The species which are common to all three of the years number 88. Starting with this number for a basis one might reasonably expect to record more than a hundred species on any day between the 5th and 20th of May, assuming favorable weather.

In the absence of actual experiment to prove it, one may not be allowed to say that any untried day was a better day for birds than those tried, but judging from appearances and from the appearance of fields and woods on May 18th, I would say that that was the most favorable day of the year. It was not possible for me to prove it, however. The later migrants were just in and the north bound ones which had come earlier were still with us. What the probabilities for the unusual species would have been only actual field work could demonstrate.

It is true that we have exploited this "All Day" May day far more than any other "All Day" of the year, chiefly because there is a certain interest which attaches to the largest horizon, but the reader is not to conclude from this that our attention is focused upon this May day work. The horizon taking continues during the whole year so far as other duties will permit. When sufficient material has been collected it is proposed to tabulate the results of this work with a view to determining the status of the bird population for each week of the migration periods and for each month during which there is little or no change in the bird population. What other deductions may follow from this work time will show.

In the list which follows the species which were common on the 9th have a C following the name. These followed by a number indicate the number of individuals seen during the day :

Pied-billed Grebe, 1.
Am. Herring Gull.
Am. Bittern, 1.
Green Heron, 1.
Virginia Rail, 1.
Sora, 1.
Am. Woodcock, 1.
Solitary Sandpiper, 1.
Bartramian Sandpiper, 1.
Spotted Sandpiper.
Killdeer, c.
Bob-white.
Mourning Dove, c.
Sharp-shinned Hawk, 2.
Red-tailed Hawk, 1.
Red-shouldered Hawk, 1.
Broad-winged Hawk, 1.
Am. Sparrow Hawk.
Barred Owl, 1.
Screech Owl, 1.
Belted Kingfisher.
Hairy Woodpecker.
Downy Woodpecker.
Red-headed Woodpecker, c.
Flicker, c.
Whippoorwill, 1.
Nighthawk, 1.
Chimney Swift, c.
Ruby-throated Humming Bird, 1.
Kingbird.
Crested Flycatcher.
Phœbe.
Wood Pewee.
Green-crested Flycatcher.
Traill's Flycatcher, 2.
Least Flycatcher.
Prairie Horned Lark.
Blue Jay, c.
Am. Crow, c.
Bobolink, c.
Cowbird, c.
Red-winged Blackbird, c.
Meadowlark, c.
Orchard Oriole.
Baltimore Oriole, c.
Rusty Blackbird, 2.
Bronzed Grackle. 2.
Am. Goldfinch, c.
Vesper Sparrow, c.
Grasshopper Sparrow.
White-crowned Sparrow.
White-throated Sparrow.
Chipping Sparrow, c.
Field Sparrow, c.
Song Sparrow, c.
Swamp Sparrow.
Towhee.
Cardinal.
Rose-breasted Grosbeak, 1.
Indigo Bunting.
Scarlet Tanager, c.
Purple Martin.
Barn Swallow, c.
Bank Swallow.
Rough-winged Sparrow.
Migrant Shrike.
Red-eyed Vireo, c.
Warbling Vireo, c.
Yellow-throated Vireo.
Blue-headed Vireo.
Black and white Warbler.
Blue-winged Warbler.
Golden-winged Warbler, 3.
Nashville Warbler, c.
Tennessee Warbler.
Orange-crowned Warbler, 3.

Yellow Warbler, c.
Magnolia Warbler.
Myrtle Warbler.
Cerulean Warbler, c.
Chestnut-sided Warbler.
Blackburnian Warbler.
Palm Warbler, 1.
Oven-bird, c.
Water-Thrush.
Louisiana Water-Thrush, 1.
Mourning Warbler, 1.
Hooded Warbler, 2.
Maryland Yellow-throat, c.
Yellow-breasted Chat.
Am. Redstart, c.
Am. Pipit.
Catbird, c.
Brown Thrasher, c.
House Wren, c.
Long-billed Marsh Wren.
Brown Creeper, 1.
White-breasted Nuthatch.
Red-breasted Nuthatch.
Tufted Titmouse.
Chickadee.
Golden-crowned Kinglet.
Ruby-crowned Kinglet.
Blue-gray Gnatcatcher.
Wood Thrush, c.
Wilson's Thrush.
Olive-backed Thrush.
Robin, c.
Bluebird.

LYNDS JONES, *Oberlin, Ohio.*

The Passing of the Bird.

Much has been written bearing upon the extermination of birds for millinery purposes, the mantle of censure falling upon the plume hunter, "regardless of race, color, or previous condition of servitude." Journals with ornithological aspirations, and some with no aspirations at all, have taken up the cudgel with a hard set determination of eliminating the plume hunter, and the sweet young creature who decorates her hat with his ill-gotten gains. The fact, however, is overlooked that Dame Fashion, that fickle old goddess who, from time immemoral, has sat upon her throne of beauty and ruled the world, places the mark for the feminine eye. Until she issues her imperial ukase that the persecution of the bird must cease, it will be painfully in evidence upon the hat, while the plume hunter will ply his "nefarious" calling, unmindful of the ill aimed arrows of his bird-loving enemies.

The large hearted sportsman with a prospective "shoot"

in view, appeals to a slugglish legislature in behalf of the birds, while the fair contingent of some Audubon Society touches the susceptible heart of some blond-haired member with a prayer for her feathered friends.

At the last session of the Georgia Legislature (November, 1900), a bill was introduced for the protection of singing birds, but it met an untoward fate, and its head dropped into the basket of the executioner.

The term "singing bird" was misleading, and its definition too ponderous for the average mind of Georgia's most august body, over which the shade of Daniel Webster had never fallen. Some of the members voted against the bill, claiming that the title "singing bird" was not complete in its meaning, that some birds might be killed through ignorance, without any intentional violation of the law. A compromise was made, however, and a bill passed for the protection of Mockingbirds.

How well this law is being enforced can be better understood by listening to the familiar chirp of the young Mocker whose cage hangs in front of most any Italian's fruit stand in Atlanta.

The honesty of purpose of the many young women who have championed the cause of the birds cannot be too highly commended, but they, like their male admirers, are carrying their war of "protection" too far in one direction. Occasionally one finds an article in a magazine or newspaper touching upon the devastation of our forests, and without any undue display of sentiment the writer pleads for the preservation of the trees. One does not have to look very far ahead to see in the destruction of these grand old landmarks the gradual but certain extermination of the birds. I have been thoroughly convinced that the clearing of the large tracts of timbered lands and the draining of marshes and other low places, has had a marked tendency towards driving the birds from their former haunts and feeding grounds. The reaching out in all directions of our extensive system of trolley lines from the cities to the country beyond, thereby increasing the population as well as enlarging the area of every surburban town, has played no insignificant part in the "great drama" of bird life.

In my immediate surrounding the baleful influence of the plume hunter has not been felt, and it never has been my ill fortune to meet one of those much abused and much written about gentlemen.

There is no doubt that surf and shore birds have suffered greatly from the depredations of the plume hunter; the Gulls and the Terns adding largely to the victims of his deadly gun. But in inland districts, remote from water courses and the sea, where the birds are seldom taken for the millinery trade, their unmistakable decrease in numbers must be attributed to something else.

In eighteen hundred and forty-eight my father moved from Key West, Florida to Atlanta, Georgia. The place was then a little country town, and the spot upon which our home was built, was virtually in the wilderness. The Bob White, or Partridge, as it was commonly called, was a familiar bird, and plentifully found anywhere in the woods. They were not often disturbed, for the sturdy old farmer in those days would have considered it defamation of character to point his long squirrel rifle at such small game as a Partridge.

Soon Atlanta outgrew her swaddling clothes, and the far reaching hand of progressive man began to remodel the plan of the little village and in time her barren fields and red clay hills were hidden by the towering walls of a great city. The modern breech loader, and the well trained dog appeared upon the scene and the Bob White like the wandering Arab folded his tent and stole silently away.

In this Southern country before the civil war, when land and labor were both plentiful and cheap, it was a common custom with the farmer in prepairing his "new ground" to girdle the trees and leave them standing upon the land.

The fields after being cultivated or "skinned" for four or five years, were "turned out" to become a tangle of weeds or briars. These old fields were always a kind of preempted claim of the Bob White, while the dead trees above them were perforated with the holes of the Red-headed Woodpecker, and Flicker, the Bluebird coming in as a social adjunct to the rest of the family.

It would be more than a day's tramp from any of our large Southern towns, to one of those "turned-out" fields now, and the adventurous pilgrim who undertook the tour, would return to his wigwam more hungry than wise.

Sixteen miles east from Atlanta and directly on the line of the Georgia Railroad, stands Stone Mountain, at which place is located the plant of a granite industry. Before these works were erected, the spot was a perfect wilderness of red cedar, and yellow jessamine. It afforded a roosting. as well as a nesting place for the Turkey Vulture, while the shrubbery which covered the mountain, provided an ample shelter for smaller birds to nest and rear their young. Not a feather can now be found upon that mountain, every vestage of plant life has been wiped from that time-honored spot and to day it stands a bare rock reaching above the clouds, a sad reminder of its former grandeur. There is another bird which must not remain unsung. it would be downright treachery, like selling my Southern birthright,to forget the bird of my youth—the Purple Martin. I often think of that tall pole with the many gourds tied to it, which "Uncle Tom,"our old black daddy had planted behind his "quarters", just between the horse lot, and the plum orchard, for the accommodation of the Martins. There was always a sacred tie between an old time darkey and the Martins ; he never neglected to provide for their comfort, and the birds came and went without an unkind "fling" from their black benefactor.

A Martin pole would be a "rare find," now, and the Martins ? I sometimes see a few sailing overhead, and I often wonder where they build their nests. Once or twice I have put up boxes for their use, but the English Sparrows have always taken possession of them before the Martins arrived.

The old time darkey, one of the finest friends that these birds ever possessed, has already reached the turn in the road to the Darksome Valley, and will soon pass into the shadows of the "Great Beyond." I know not that when the work of life's eventful day is done, that the storm tossed mariner will see the celestial beacon of a better world. But if there is a

reward for the faithful toiler in the master's vineyard, then that old servant as he bows heavy laden before the throne, will lose his burden, and passing through "the gates ajar" will wake in the dawn of a brighter day. In many of our institutions of learning, arbor day has been incorporated into the course of study, and every year upon a certain day, trees are planted, and the necessity of preserving them is instilled into the mind of the student. A few days ago I read an article in the *Atlanta Daily Journal* commenting upon a recent visit of Secretary of Agriculture Wilson to Mount Mitchell, North Carolina, "the highest peak east of the Rockies." The Secretary criticised severely the denuding of the forest for "commercial and mistaken agriculturial purposes," and complimented the effort to obtain from the Government an appropriation for a forest reserve. Mr. Wilson made the startling disclosure that while the north and the west had more than 70,000,000 acres of forest reserve, the south had none. But one move begets another, and the day is not far distant when the trees, as well as the birds will be better protected in this Southern land. North Carolina though the first Southern State to forge to the front will find others as energetic as she, that will follow closely in her wake.

It is a noble undertaking for some tree and bird-loving spirit, though a tedious journey over a rough unbeaten path, and one upon which few foot prints have yet been made.

ROBT. WINDSOR SMITH, *Kirkwood, Georgia.*

A Late September Horizon at Cairo, Ills., Including a Brief Visit to "The Point."

While visiting in the Southern Section of the state last fall, it was the writer's privilege to spend a single hour on "The Point."

To those who are unfamiliar with the topography of Illinois, let it be stated that the above expression applies strictly to that low flat, alluvial tract of land, situated at the junction of the Ohio and Mississippi rivers, and extending southeasterly

from Cairo for a mile or more. It is the southernmost point reachable in our State.

Its peculiar position renders it unique in some respects, situated, as it is, at the sharp angular meeting place of two great rivers, as well as migration thoroughfares, which latter fact alone would readily suggest to our minds interesting possibilities in the way of birds.

This statement doubtless would hold true of it during the height of the season of migration and otherwise, perhaps, if a much longer time could have been given to it as a locality.

But, as it was, my investigations failed to yield the hoped for results and withal were somewhat disappointing. So, therefore, what little value there is in these notes really has more to do with what was not seen than what was actually recorded. Elimination, in this instant cuts something of a figure.

Still, after all, a hurried inspection of any given locality, however promising at first sight, with worked out results that afterward are uncompromisingly poor, as they almost proved to be in this case, is hardly a fit test of its actual capabilities at all times.

It is so here at home, one day ever varying with another, and consequently why should it not be so in places with which we are less familiar? Then again, as all of us, are equally aware, and who have given much attention to the movements of birds, the hours of the day have everything to do in the determination of important results.

Arriving at Cairo on the evening of September 28, it was learned with regret that no convenient connection with the north bound train over the "Big Four" could be made until 3 P. M. of the day following. So, to improve the spare time, thus thrown upon my hands a number of Cairo bird-horizons were proposed, and, among other places, "The Point," as it is locally called, was selected to be visited. During the night we experienced a heavy shower and although subsiding, it had left its threatening effects in the sky when the morning came on. I had seen one flock of Ducks and another of Geese (?) going southward during the early A. M., over Ohio, and had heard the clear-cut notes of the Carolina Wren in the little park fac-

ing the Halliday House. The outlook seemed in a measure promising.

But, sadly enough, the rain came down again, serving well in dampening my budding spirits, as well as very conscientiously holding me in check for the balance of the forenoon—the result being that the greater part or my plans were forced to be abandoned. But the bottom-lands, heretofore alluded to, were still kept in mind with the full determination to visit them if possible.

In describing further in detail this piece of low ground it is well to remark that it is subjected periodically to the rises or oveflows of the two great rivers which, when confined within their banks, serves to form its boundaries on two sides. In its present condition it is therefore practically worthless, aside from the little pasturage it affords during the time the waters are down.

A thick and scarcely unbroken stand of cottonwood appears to cover its surface, beneath which is a rank and almost impenetrable growth of ragweed — save where the cow-paths, roadways and small clearings have been made—much of which impressed me as being unusually tall, arguing well, as I thought, for the fertility of the soil. Here and there a honey locust has sprung up, breaking in a slight degree the distinctive feature of tree growth given to it by the cottonwood. Along the river-front there are some willows, among which the black (*S. nigra*) seemed to be the prevailing form.

A meandering roadway perhaps originally a cow-path, leads from the R. R. track on the Levy to the river, where a government signal-light has been placed. This was selected for my throughfare.

Upon leaving the R. R. the first bird to force his acqaintance upon me was the Jay, who of course, as usual, did not lose much time in making himself known. But one of these noisy chaps, however was seen.

Two Bronzed Grackles were met with shortly after this and, from their actions, led me to conjecture the reason for the sparsity of bird life in this otherwise promising place, and due, as I afterwards supposed, to the abundance of colored-

gunners, though none seemed to be out on that occasion. Hurrying forward, as my time seemed to be limited, three Flickers were encountered, perhaps equally as shy as the Grackles. A Red-shouldered Hawk calls in the distance, and a Ruby-throated Hummer dodges suddenly into view, only to be off in an instant before it was barely possible to count three, much less to accurately determine its sex. After that I fell in with an old acquaintance in the form of the Tufted Tit; and again the clear spirited notes of the Carolina Wren greet me this time from out the weedy cover. Among the willows at the river one solitary Yellow Warbler was seen.

On the return trip I felt myself rather fortunate in noteing the occurrence of a single Olive-backed Thrush; and, on two later occasions, distinguished very clearly, to my satistion, the chipping call, or, social-note, of the Cardinal.

Result fourteen birds, representing ten species only three of which might be termed transcient, the remainder sedentary or permanent resident forms.

Later there were observed near the city, from the car window, the train making quite a detour about its outskirts, two Turkey Buzzards and three Red-shouldered Hawks, thereby bringing up the entire Cairo Horizon to the following.—

Ducks (sp.?) one flock of about	12	
Geese (?) one flock of about	24	
Turkey Buzzard	2	
Red-shouldered Hawk	4	
Flicker	3	
Ruby-throated Hummingbird	1	
Blue Jay	1	
Bronzed Grackle	2	
Cardinal	2	
Carolina Wren	2	
Yellow Warbler	1	
Tufted Titmouse	1	
Olive-backed Thursh	1	
Total	56	individuals

with a possible representation of 13 spieces.

BENJ. T. GAULT, *Glen Ellyn, Ills.*

General Notes.

NOTES ON TERNS. STERNA HIRUNDO, S. DOUGALLI AND S. ANTILLARUM. The Penikese Island colony of Terns (*S. hirundo S. dougalli*) was reported as larger this past summer than last year, though not as large as in the summer of '99. The Woepecket Island colonies have increased in size the past two summers. On two of the three islands there were quite a number of Roseates (*S. dougalli*), but the greater number were Common Terns (*S. hirundo*). A few Least Terns (*S. antillarum*), were found breeding on Martha's Vineyard Island, near West Chop, by Dr. H. Smith, late in July.

I kept two young Roseates and one Common Tern this past summer for about a month in connection with some work on feather pigmentation. In my experience, the Roseates are less easily tamed and they learn to take food less readily. In the course of two weeks, however, the young Roseates became quite accustomed to me and would set up a violent screaming for food at the sound of my steps outside of the room in which they were kept. They usually refused to take food from other persons unless very hungry. My young Common Terns have been uniformly less noisy.

Especially interesting to me have been the wing exercises carried on with evident delight for several days before the birds were able to lift themselves above the ground. On being removed from a cage to an open space, they would grow greatly excited in the pleasure of these wing trials.

So far as my observations go, the young birds do not have to catch fish themselves until a considerable time after they are able to fly. In early August one sees many young birds about Woods Hole accompanied and fed by their parents. The fish-catching habit seems to be acquired largely by imitation and to be only partially instinctive. The young Roseates were left for 7 hours one day without food except for some live young mummichogs (*Fundulus*) swimming in a dish of water in the same room with the birds. The Terns became very hungry, but

they did not make any efforts to catch any of the fish, though they noticed the splashes of the latter.

R. M. STRONG, *Woods Hole, Mass.*

FIVE DAYS AMONG THE ISLANDS OF LAKE ERIE. Five days, from August 5th to the 9th, spent among the islands near the western end of Lake Erie yielded surprising results. We two insatiable bird cranks, Rev. W. L. Dawson and the writer, left Oberlin on the noon train and left Sandusky on the 3:30 boat and were landed on the wharf of Middle Bass Island at 6 o'clock. The work of recording the resident birds began at once. A large pond near the middle of the island was swarming with shore birds of eight species, not to mention a half dozen Great Blue Herons, nine King Rails, many Green Herons, a Bittern and a flock of fourteen Black Ducks. Swallows skimmed the water's surface and Common Terns winged across the island. A solitary Kingfisher sprung his rattle upon us. This was a most propitious beginning. Yellow Warblers were apparently still in full song.

I shall not take the time to go into detail now, but rather briefly summarize the work done.

From Middle Bass we secured a row boat, and in it visited nine islands, involving about 30 miles of rowing, some of it in rough seas. Upon four of the islands Common Terns were still nesting in considerable numbers, while perhaps half of the birds flying about were in young plumage. On one island the Purple Martins formed a roost of nearly 2000 individuals. The best of evidence pointed to a considerable roost of blackbirds on one other island.

It is interesting to note that Carolina Wrens and Cardinals were seen and heard singing on East Sister island, well into the Canadian boundary, while in Lorain county they are not at all numerous. Indeed, the Carolina Wren is a rare find at any time of year. On the other hand, Yellow Warblers were not recorded north of Middle Bass, where they were in full song. The physical conditions were apparently as favorable on East Sister as on Middle Bass, and certainly no less so on North

Bass. Here, too, on these most northern islands the Red-winged Blackbirds were building in considerable numbers, although there was no suggestion of swampiness along the stony beach. True, the nests were placed low down in the brush.

The din of screaming Terns, calling Blackbirds and warbling Wrens was something to be remembered. Indeed, for hours after leaving the vicinity the same sounds mingled with the soughing wind and roaring surf. The Terns were nowwhere so numerous that they obscured the sky, but their numbers were uncountable on four of the smaller islands. Black Terns mingled freely with the Common Terns, but were evidently not breeding anywhere in the vicinity. Likewise the American Herring Gulls, few in numbers, were merely roosting out of harms way.

In all 58 species were recorded. The largest number, 42, were found on Middle Bass. On one rock reef but four species were present.

One cannot resist the conclusion that this chain of islands is a natural highway for the birds on their annual migrations.

LYNDS JONES, *Oberlin, Ohio.*

BLUE-GRAY GNATCATCHER, POLIOPTILLA CÆRULEA.—In my tour of the woods on the 10th of May, I found a nest of this bird saddled upon the horizontal limb of a small post oak tree. Nest about five feet from the trunk of the tree, and about ten feet from the ground. Hillside, high open woods, adjoining cultivated field, through which flowed a small stream. These birds reared their brood undisturbed, nest taken July 1st.

Measurement,—Height, 2.75. Depth, 1.25. Top across, outside 2.50, inside 1.00. Bottom, outside, 1.50; inside, 1.00. Inside walls declining from circumference to center making a shallow funnel shaped cup.

Material.—Entire outside composed of lichens, held together by caterpillar silk, and the stems of the sensitive vine, mixed with a quantity of a little nut brown husk, about one-fourth of an inch in length, the name of which I could not determine. This envelope was separated from the nest entire, without falling apart, making a mat 5.50 inches long on one

side, and 4.00 inches on the other, with a width of 3.50 inches. The remainder of the nest was composed of small feathers and lichens, made compactly together, with a few straggling horse hairs worked in near the bottom.

Although I have read descriptions of the nests of this bird, in which they were described as being fastened to the upright twigs of trees, I have never observed any in such positions. All which I have found in our woods, were saddled upon horizontal limbs, often on the highest branches, but never on the upright growth of a tree,

ROBERT WINDSOR SMITH, *Kirkwood, DeKalb Co., Ga.*

LITTLE BLUE-HERON, *Ardea cærulea*.—An immature female was brought to me on August 6th, by Mr. William Wayne, 3rd, who secured it at a mill dam on Crum creek, about three miles southeast of Berwyn. It is pure white with the exception of the tips of its primeries, and measures: length, 22.00; wing 10.10; tarsus, 4.00; bill, 2.84, in inches. Mr. Wayne informed me that two birds were seen, but one flew too high for a second shot. I believe this is the only record for Chester county, and it appears to have always been quite rare in Pennsylvania. Dr. Warren mentions "two or three taken in the southeastern part of the State," one of which, a young bird, was taken in August, 1875. Unfortunately the rumers of several other "White Herons" seen or shot in this neighborhood in a dozen years, have not been followed up.

FRANK L. BURNS, *Berwyn, Pa.*

COLONY OF BLACK-CROWNED NIGHT HERONS, *Nycticorax nycticorax nævius*.—Some years ago I visited a breeding ground of this species, situated a quarter to a half mile from water, near Columbia. The nests—which were often mere platforms of sticks and twigs—were placed well up and well out on the branches. Several sets of eggs were taken at a height of from sixty-three to seventy-five feet in chestnut trees. As many as five nests counted in a single tree.

LIONEL F. BOWERS, *Columbia, Penna.*

Editorial.

The next number will appear about the first of December. It will be a Special Bulletin on the birds of Berwyn, Penna., a bird census of a section one square mile in extent. The promised stretch of an interesting episode in the life of Alexander Wilson, has not been lost sight of; it will appear later. Enough special and co-operative study matter has accumulated to make several Special Bulletins a probability, and the Officers and Committees of the W. O. C. will continue to collect data with this object in view. Doubtless other schemes of co-operative observation will unfold before the advent of another season, as the interest seems commensurate to the outlay. We would call the attention of our Active Members to the President's notice on another page.

It should be a matter of congratulation to ornithologists of moderate means, that a new edition of Audubon's *Birds of America* is now contemplated, by Messrs. Haughton, Mifflin & Co., the well known publishers of Boston. It is proposed to produce a facsimile of the entire text of the rare and expensive edition of 1840-44, by photographic process. We learn that the encouragement received has not been all that had been anticipated and that further interest must be shown in order to insure the successful publication of this edition. It is to be hoped that enough advance subscriptions will be received, and instead of Audubon's being one of the most inaccessible of works, the low price place it within the reach of all.

The sale of the splendid collection of birds' eggs, nests and skins, owned by Miss Jean Bell, Ridley Park, Penna., to Hon. John Lewis Childs, Floral Park, N. Y., removes from the neighborhood the largest and finest private collection of North American bird eggs in the world.

868 species and subspecies are represented in the 30,000 eggs and 1000 nests. In the forming of this magnificient collection, the following were purchased and absorbed intact; the collections of Josiah Hoopes, Isaac Reiff, Harry R. Jamison, Harry G. Parker, and 1000 selected sets from Samuel B. Ladd, all of

Pennsylvania; also the collection of J. W. Preston, Iowa; Henry R. Taylor, Chester Barlow and H. W. Carriger, of California; Watson Bishop and Harry Austin, of Nova Scotia; and Joseph Grinnell's Alaskian collection. Some idea of its richness and extent may be had by the enumeration of a few examples: 3 sets Cory's Least Bittern, 15 sets Sandhill Crane, 1 set Solitary Sandpiper, 3 sets California Vulture, 90 sets Sharp shinned Hawk, 30 sets Golden Eagle, 22 sets Prairie Falcon, a large series of nests, eggs and skins of Everglade, Swallow-tailed and White-tailed Skite, 1 set of Spotted Owl, 5 sets Clark's Nutcracker; in short everything procurable, and is said to have necessitated the expenditure of over $25,000, in actual cash, occupying a building erected expressly for the purpose.

Announcement has been made by the Smithsonian Institution, that Dr. W. L. Ralph, Honorary Curator, of the Section of Birds' Eggs, in the National Museum, has undertaken the continuation of the "Life Histories of North American Birds" commenced by the late Major Charles Bendire. The next volume will begin with the Grosbeaks and end with the Vireo and Bahama Honey Creeper. Blanks for co-operative investigation are being sent out.

The time is close at hand when bird study in many sections of the country will be spoken of as a passing fad, a term too often applicable to the collecting of eggs. The publication of that which *Our Animal Friends* terms "mawkish sentimentalism" will sooner or later be fraught with evil to the cause which the writer may wish to advance. Happily, the judicious policy of those whom we look up to as leaders in the movement toward popularizing the science, has kept the rising stream within its legitimate channel—with a few notable exceptions. Wherever the exception, it does not apply to the numerous periodicals one must take in order to keep abreast of the times. Never have we had so many, so varied and interesting series of the ornithological magazines as at the present time, each with its distinctive features and characteristics. The *Auk* leading, general in character, but withal possessing a strong New England flavor. The *Osprey* with its biographies, rambles afield, etc.,

sometimes brilliant, sometimes ponderous. *Bird Lore*, elegant, typographically perfect, an avowed bird protector; a boon to the beginner. The *Condor*, lone representative of the Pacific slope, an "over-flow meeting" of the *Auk*. *Birds and Nature* with its beautiful colored pictures of great assistance to both teacher and scholar. *American Ornithology*, bright and artistic. The *Oologist*, the mecca of all oologists and exchangers. The *Journal of Maine Ornithological Society*, of more than local interests. The *Wilson Bulletin* with its schemes of co-operative investigation, bird census and horizons. Many other papers and magazines regularly devote from half a column to many pages to the subject, besides the inevitable "mushrooms" which cannot be taken seriously.

Dr. R. W. Shufeldt has removed from Washington, D. C., to New York City. His address is 502 West 142nd St., Hamilton Place.

President's Address.

The Wilson Ornithological Chapter was organized as an associatien of ornithologists, who desired to do original work on a co-operative basis. It has published bulletins which we feel were worth all they cost and it has served as a training school for a number of young ornithologists.

Field work is naturally the most available line of study for our members and our bulletins are best known as field study publications. Under the head of field studies, we do not, however, include simple descriptions of collecting trips or collections. Collecting can never be to the investigator anything more than a means towards an end and collections are of little scientific value except as they furnish material for scientific studies that are of themselves worth while.

We have several committees engaged in special lines of field work on the co-operative plan. Every member is urged to report to the chairmen of the various committees his observations, even if they are few. Members are also urged to extend the usefulness of these committees by obtaining new members,

who will be willing to enter into the spirit of our work and to undertake the various lines of study we have outlined. Information concerning our work may be obtained from Mr. Lynds Jones, Oberlin, Ohio.

Our constitution calls for an annual election of officers. We were once in the habit of holding this election regularly, but during the past two or three years it seems to have been forgotten. There appears to me no better way to make amends for past neglect than to call for a regular election. Every active member is urged to make nominations to the secretary at once. A list of candidates will then be published and an election held by mail. As the office of secretary is at present vacant, I appoint Mr. Benj. T. Gault to be secretary for the few weeks remaining before a regular secretary can be elected.

The officers to be elected are a president, secretary, treasurer, and three members of the executive council.

According to our constitution any active member may place in nomination during the month of September, one eligible member for each elective office; all nominations to be sent to the president.

R. M. STRONG, W. O. C., President,
Woods Hole, Mass.

A Criticism.

A criticism in the March-April number of "The Condor," upon Bulletin No. 33, which is a running account of "A Summer Reconnoissance in the West," under the joint editorship of the writer and Rev. W. L. Dawson, seems to call for some comment. It is true that the criticism is mainly directed against the writer's list taken in Los Angeles county alone, but some remarks of a general nature seem to reflect upon the whole enterprise.

In the interest of accuracy the criticism is welcomed, the more so, because for Los Angeles county it accomplishes what did not seem feasible in the small space allotted to that large field; namely, indicating what species were rare and therefore

would not likely be seen by the tourist who is only causually interested in birds.

It seems to the writer that our critic was unfortunate in his choice of the form of destructive criticism, because it has no doubt led him much farther than was intended. Furthermore, he has wholly misconstrued the spirit of the "Reconnoisance." It was not intended that the results have any general scientific value. We were out to become acquainted with as many species new to us as possible, and had nothing other in mind than to satisfy ourselves. In our own opinion we have made no local lists, and therefore compete with none. Our object in placing the results of this work before the reading public is only to give a concrete illustration of what one may accomplish in the way of a study of the birds during "a ride on a rail."

I am fully in sympathy with my critic in seeking to save his locality from errors of identification, but I still maintain that ability to determine species on the fly is no less worthy of endeavor than the ability to determine in hand scarcely discernible differences in closely allied forms. I protest against the notion that the only good bird is a dead bird.

To pass on, now, the species objected to. Green-tailed Towhee and Western Winter Wrens are pretty clearly mistakes due to a too hasty revision of my field note-book. The California Thrasher and Samuel's Song Sparrow are indistinguishable in the field from the closely allied forms and since their franges are not adequately defined in any writings available both forms were admitted. A better plan would have been to follow them with a question mark. While the record of the Prairie Falcon and Black-tailed Gnatcatcher may not satisfy anybody else, the specimens not having been taken, I have no doubt about them. The Falcon has become so familiar to me in the regions just traversed that I could not have mistaken it for any of the other Raptores likely to occur there. The Gnatcatcher was too well seen to warrant a doubt. The California Cuckoo could hardly be mistaken for any other species, especially in the setting in which I found it. It is wholly against the experience of the most of us that because a species happens

to be rare in our locality that therefore the person who comes for a brief study will not find it. For nine years I have looked in vain for the Short-billed Marsh Wren in this county; but last year one of my students found one! A week later I also had that privilege.

In our critic's statement, "It is unnecessary to call attention to other identifications almost as glaring, for enough has been said to illustrate the danger of publishing local lists without years of experience gained in the locality itself." I cannot but feel that he has been led into a too sweeping statement by the style of criticism adopted, and certainly his idea that this list is intended to pose as a local list is mistaken. A careful scrutiny of the list does not reveal any other species than those which he has mentioned to which serious exception should be taken.

It is our intention to revise the whole paper to conform to the late Supplement to the A. O. U. Check-List, when other records which seem to us questionable will be called attention to. Another expedition of a similar nature, but with a scientific setting, is being planned, when we shall have opportunity to compare this initial work with the later.

LYNDS JONES, *Oberlin, Ohio.*

Publications Received.

Pacific Coast Avifauna, No. 2. (A List of the Land Birds of Santa Cruz County, California.) By Richard C. McGregor. Cooper Ornithological Club of California. May 15, 1901.

This paper of nearly 22 pages is the second in the series of papers too extensive for publication in the official organ of the Cooper Club. It is a most happy arrangement by which the papers of greater importance which this active organization is presenting from time to time may be preserved separately, with their own paging.

The paper consists of two parts, the Introduction and the list of Land Birds. The Introduction gives one an insight into the methods of work, the amount of time spent, the sources of

information and a lucid description of the county, including the "Faunal Position of Santa Cruz County," taken from "Life Zones and Crop Zones of the United States," by C. Hart Merriam. Many foot note references in this part as well as in the list which follows furnish a bibliography to the paper.

The list of Land Birds impresses us as being one which has been prepared with great care both from the standpoint of an accurate list and in giving full credit to all who have worked in the region. The annotations upon the 139 species, though usually brief, are well chosen and add interest and value to the list. The only improvement in the typographical appearance, which is unusually good, might be a different style of character for the reference figures.

The paper is a valuable contribution to our knowledge of the birds of that region, and the author is to be congratulated.

L. J.

On the Osteology of the Striges. (*Strigidæ and Bubonidæ.*) By R. W. Shufeldt, M. D., Proc. Am. Phil. Soc., Phila., Vol. XXXIX, No. 164, pp. 665-722, pll. X-XVII. Dr. Shufeldt has written much concerning the anatomy of Owls at various times and in different places since the publication of what he tells us was his first paper which was a memoir devoted to the *Osteology of speotyto cunicularia hypogæa.* In the present paper Dr. Shufeldt gives "a very general contribution to the study and comparison of the osteological characters presented on the part of the skeletons of all of the North American species, or at least genera, of *Strigidæ.*" There are a number of illustrations, some of which are very fine plates and which are very satisfactorily elucidated in the text. Those of the skull are especially well executed and serve well to illustrate the interesting and valuable points Dr. Shufeldt directs attention to in the consideration of the morphology of the cranium to which particular attention is given, although the vertebral column and appendicular skeleton are not neglected.

In the beginning of the work, Dr. Shufeldt gives a number of osteological features which have been pointed out by Mr. F. E. Beddard and then supplements this by a list of his own,

which furnishes a valuable synopsis of very easy reference.

W. E. R.

On the Osteology of the Woodpeckers. By R. W. Shufeldt, M. D., Proc. Am. Phil. Soc., Phila., Vol. XXXIX, No. 164, pp. 578-622, pl. IX. In this paper Dr. Shufeldt gives a detailed account of the comparative osteology of the *Pici*, being the result of ten years collecting of these forms. The author has written a number of articles on this subject, the most important of which appeared in the *Proceedings of the Zoological Society of London.* (February 3, 1891,) but the present memoir is the most complete one that has ever been written on the subject.

Dr. Shufeldt takes the subject up in a *general* rather than in a *special* manner and calls attention to the salient osteological features of many species of Woodpeckers, chiefly American, rather than devoting himself in detail to a single form, and, herein to our mind greatly rests the value of this paper; for in the present state of our knowledge it seems to us that this paper covering the ground which it does is of far more value than an elaborate account of the osteology of a single type would be, for, as the special osteology of the woodpeckers has not been as yet satisfactorily worked up it follows that a general work such as we have before us is what is especially desired at the present time.

Dr. Shufeldt also gives his views as to the relationship of the Woodpeckers and we cannot do better than quote his own words: "It is my opinion that it is to the great Passerine group that the *Pici* are more nearly affined than to any other existing suborder of birds. * * * * I here venture to state that as our knowledge of the morphology of *Aves* becomes more perfect the fact will be appreciated that the *Pici* and the *Passeres* are divergent groups from a common stock in time; and that the former have simply become highly specialized and modified in accordance with their mode of life and habits."

W. E. R.

The Osteology of the Cookoos. (*Coccyges*). By Dr. R. W. Shufeldt, Proc. Am. Phil. Soc., Vol. XL, No. 165.

In this memoir Dr. Shufeldt gives particular attention to the osteology of the *Geococcyx californianus;* most of the plates are well executed, especially those of the skull and pelvis, which structures receive detailed attention in the text. Taking *Geococcyx* as a basis for comparison a number of different types are considered, as *Crotophaga, Centropus, Diplopterus, Coccyzus*, and others. It is of interest to note that in *Coccyzus* the trachial rings are as completely ossified as are any of the trachial rings among the *Passeres*. There is also herein included some notes on the osteology of a nestling of the *Coccyzus americanus*. At the end of the paper there is a "Synopsis of the Principal Osteological Characters of the three subfamilies of of the United States Cuculidæ"; which probably will be found quite useful, and finally Dr. Shufeldt closes the subject with a very brief but none the less interesting discussion of cuculine kinships. W. E. R.

Yearbook of the United States Department of Agriculture, 1900. The value of this publication to the people it reaches is undoubtedly great. 500,000 copies are issued yearly. Ornithologically, two papers interest us. The first: *How Birds Affect the Orchard*, p, 291-304. By F. E. L. Beal, B. S., gives an informal annotated list of some birds important to the fruit grower, which include Woodpeckers, Titmice, Nuthatches, Brown Creeper, Cuckoos, Baltimore Oriole, Warblers, Vireos, Birds of Prey, and Shrikes. Under the somewhat misleading subtitle of "Birds Harmful to the Orchard," we have the Purple and House Finches, Robin, Catbird and Cedar Waxwing. Although the varities of fruit eaten, extent of damage, and localities affected are cited in the text; the wisdom of so placing some of our Eastern birds, particularly the Robin, in this category might well be questioned, as even the qualifying afterthought expressed in the investigator's belief "that the damage is usually caused by an abnormal abundance of a species within a limited territory," cannot wholly efface the impression already received. The omission of the European House Sparrow, which unquestionably destroys a greater variety and quantity of cultivated fruits in many sections of the country than all the native

species together, is perhaps unfortunate. *The Food of Nestling Birds*, p. 411-436, by Sylvester D. Judd, Ph. D., goes into the subject pretty thoroughly. It is surprising what a large amount of valuable information the writer has placed in order. A number of diagrams illustrating the proportion of food of both nestling and adult of many of our common birds show the comparative value at a glance, where a mere statement of percentage would fail nine times out of ten. Several plates from photographs taken of young in nest also appear. In conclusion he says: "It will be observed that whatever the character of the food of the adult bird, the young, excepting those of Doves and Pigeons, are at first fed on animal diet, and that this diet is gradually changed, where change is necessary, to conform to that of the mature bird. This is probably due to the fact that animal food has a higher nutritive value and is more easily digested than the available vegetable food. As nestlings increase in weight from one-fifth to one-half daily, and at certain stages of growth require daily more than their own weight in insects, it is essential that their food should be readily obtainable. Spiders, grasshoppers, caterpillars and crickets answer these requirements very well and are a favorite nestling food with many of passerine or perching birds. Birds that are largely vegetarian mingle fruit or grain in constantly increasing quantities with the insects fed to their young, though insects usually remain the chief component of the food until maturally is nearly reached. But these birds generally substitute such insects as hard beetles, carabids, dung-beetles, may-beetles and weevils for the softer food of other perching birds. The caterpillars selected are generally such hairless kinds as canker worms, cutworms, and army worms, all of which are serious pests. But hairy caterpillars are eaten to a certain extent." F. L. B.

Periodicals Received.

American Ornithology, Vol. I, Nos. 2, 5–9, Feb., May–Sept.

Bird Lore, Vol. III, Nos. 1–4, Jan.–Aug.

Birds and Nature, Vol. X, Nos. 1, 2, June, Sept.

Book Reviews, Vol. IX, Nos. 1–6, Jan.–June.

Bulletin Wisconsin Natural History Society, Vol. I, No. 4, June.

Condor, Vol. III, Nos. 1–4, January–August.

Farm, Stock and Fireside, Vol. I, Nos. 5–11, June–Sept.

Fern Bulletin, Vol. IX, Nos. 2, 3, April, July.

Forester, Vol. VII, Nos. 7, 8, July, August.

Journal of Applied Microscopy and Laboratory Methods, Vol. IV, No. 8, August.

Journal of Maine Ornithological Society, Vol. III, Nos. 1–3, January–July.

Naturalists' and Fanciers' Review, Vol. II, No. 9, March.

Ohio Agricultural Experiment Station Bulletins, Nos. 110–126, December, 1899 to March, 1901.

Oologist, Vol. XVIII, Nos. 1–9, January–September.

Our Animal Friends, Vol. XXVIII, No. 12, July; Vol. XXIX, No. 1, Sept.

Photogram, Vol. VIII, No. 90, June.

Popular Science News, Vol. XXXV, Nos, 7–9, July–Sept.

Transactions of the Massachusetts Horticultural Society. 1900. Parts 1 and 2.

A SECTIONAL BIRD CENSUS.

Taken at Berwyn, Chester County, Pennsylvania, During the Seasons of 1899, 1900 and 1901.

With a better understanding of geographical distribution it becomes desirable, in local lists at least, that a more accurate estimate of the bird population should be employed than the usual expression of indefinate terms. The time-honored phrases, however admirably graduated, often utterly fail to give a clear idea of the numerical status of a species, and are useless for comparative purposes generally. On the other hand a bird census of a not too restricted area accomplishes at least two desirable objects: It forms a reasonably accurate basis for comparison with similar tracts, or future enumerations over the same ground reveals the rate of increase or decrease; and it enables an approximation of the total bird life to be made of a larger section.

The writer does not plead any special qualifications for the work other than that the locality has been most familiar ground for the past twenty years. The task was not light and the manner of accomplishing it varied according to circumstances. Thus, while the discovery of a tenanted nest was considered final and conclusive evidence of residence, the exact location of every nest was deemed impossible without unlimited time and energy. The many little traits, so well known to the oologist, indicating the nearby habitations; repeated horizons; the corroborative evidence in the shape of the empty nests exposed by the falling leaves; all figured to a greater or lesser extent in the final count, with a constant leaning toward conservatism. Much time was consumed in amassing the necessary data, especially during the last two years. The enumeration was

timed so as to take the various species in the midst of their breeding season. Dividing and simplifying the labor wherever practicable, I still found the work very exacting and not to be again attempted without serious thought.

In blocking out a tract one square mile in extent, I chose a piece of land believed to be in no way inferior or superior in point of attractiveness to the surrounding country. It is diversified enough to contain hill, ravine, swamp, creek, wood, thicket, clearing, meadow, cultivated field, orchard, lawn, railroad, street, and a fair representation of the fauna and flora at large. It is moreover, accessible to my home, and land over which I am free to tramp. Tracings were made from an excellent township and property map, and exact boundaries established. It is an irregular square, not quite the same ground as that described in my Warbler Census (*Osprey, Vol. II, p. 48.*), extending more to the north and west, consequently less to the south and east.

The southern line runs a few rods beyond Paoli road and continues through the middle of the village along Berwyn avenue. To the east, it begins at a point on the Pennsylvania railroad just below the Philadelphia and Lancaster turnpike bridge and runs north parallel with Warren avenue to the old Lancaster road, thence along the hillside just east of and parallel with the most direct road to Valley Forge, locally known as "contention lane." On the north it extends into the Great Chester Valley, being bound by the State and Howeltown roads and at two points slightly beyond them. The western boundary averages a few rods beyond the Mahaffey road. The southeast and southwest corners are clipped, and a great indentation made in the northern line just west of the centre; otherwise it is as previously stated, a rough square.

Two railroads, one of four and the other of two tracks, run through it from east to west; and it contains a population of six hundred and twenty-five souls. About one-tenth of the territory lies in Easttown township and the remainder in Tredyffrin township, extreme eastern part of Chester county, twelve miles from West Chester and seventeen miles from Philadelphia city hall. Approximate latitude, 40 degrees. Approxi-

mate longitude, 1 1-2 degrees east of Washington. Altitude at Berwyn railroad station 495, to about 540 at hill crest, and about 225 feet above tide at northeastern corner in the valley. I am indebted to the United States weather bureau for the mean temperature, 68.68 degrees Fahrenheit and humidity 67, of Philadelphia for the past three years from April to August inclusive, which about covers the breeding season. It averages a little cooler and dryer at Berwyn.

South Valley hill, of which this block is but a small section is the edge of a low table land (500 to 600 feet) is composed of mica slate, doubtless of sedimentary origin and very ancient.

This ridge slopes into the valley on the north, and on the south forms but a part of the undulations to the Delaware valley; as a whole however, unbroken for many miles and constitutes the water shed between the Schuylkill and Delaware rivers. Within the stated area, on the south side four brooklets have their source, unite into the Darby creek a mile or so below, and flow into the Delaware below Philadelphia. On the north, less than a quarter of a mile from springs of the above, rise two branchlets of Trout run, which sparkling and glancing in the sunlight obliquely across the green valley, mingles its waters with that of the Schuylkill below Port Kennedy. At the extreme northern boundary a tiny stream has its beginning, trickling down through many a shaded dell to join the East Valley creek which in turn empties into the river at Valley Forge.

The northbound streamlets are invariably flanked by the steep ravine slopes, which in turn are cleft and seamed with lesser ravines and gullies. Owing to an upheavel of the slaty strata, the eastern side is always much more precipitous, often with the rocks exposed, while the opposite side is covered with earth.

The Great Chester, or Downingtown Limestone valley, as it is designated geologically, is a narrow basin averaging two and a half miles wide, fifty-eight miles long and from two hundred to four hundred feet deep. The limestone overlies the white or Potsdam sandstone, which represents the earliest stratified rock in the country and lies near the surface on the

North Valley hill. I cannot do better than quote Prof. H. D. Rogers in his description of this valley in prospective: "Externally the tract with the highly cultivated farms, numerous thriving villages, factories, furnaces and mills presents a scene unsurpassed in the United States. The soft, picturesque beauty of the plain or bed of the valley is much inchanced by the remnants of the natural forests. It lies between these like the deck of a slender boat between its sloping sides. The surface is in almost every part irrigated with running brooks of pure, transparent water. The enclosing hills, or two edges of the general upland between which this valley lies, at an average depression of nearly three hundred feet, are superbly carved into numerous wooded ravines and narrow dells. From any point on the southern table land near the head of one of its ravines, the view is truly enchanting, broad slopes of foliage and a shady dell fill the foreground, wheaf fields and pastures, orchards and snug, tidy farm houses, many of them of the dignity of country mansions, occupy for miles the middle distance, and the extended back-ground is a rich succession of fading hills and far stretching mountains." As Prof. Rogers has stated, this ridge as also the opposite hill range, is covered with a growth of decidous timber which though but a narrow strip at some places, is almost unbroken throughout its length of many miles.

Once more confining my statements to the local square, we have about 170 acres of timber from sproutland to trees averaging perhaps sixty years old. Ninty-five feet would probably top the highest chestnuts which predominate, with a varying admixture of oak *Quercus tinctoria*, *Q. alba*, *Q. primus*, hickory *Carya tomentosa*, tulip poplar, *Liriodendron tulipifera*, beech, red maple, and a sprinkling about the borders principally of red cedar, sycamore, wild red cherry, sassafras, gum, black walnut, birch *Betula lenta*, mulberry, slippery elm, hackberry *Celtis occidentalis*, swamp willow, laurel *Kalmia latifloria*, flowering dogwood and spicewood. A few of the commoner woodland and swamp plants are the windflower, mandrake, bloodroot, shepherds' purse, pepper grass, yellow violet, jewel weed, poison ivy, wild sarsaparilla, bush honeysuckle, part-

ridge berry, wild astor, wild huckleberry, trailing arbutus, spotted prince's pine, pennyroyal, boneset, skunk cabbage, Indian pipe, poke, Indian turnip, calamus, showy orchid, winter, summer and maiden hair ferns. Patches of hair and coral moss are frequent, and tangles of greenbriers, chicken and fox grape vines, also sweet and poison shumac, form safe retreats for the smaller birds.

Almost three-fourths of the tract is cleared. In addition to many of the trees already named, the following are found singly or in clusters: persimmon, catalpa, yellow locust, tree of paradise, weeping willow, Lombardy poplar, silver maple, white ash, pines *Pinus strobus* and *rigidus*, spruce and cherry. Of cultivated fruits about eight or ten acres of apple orchards, and many pear, cherry, peach, and smaller fruits; the pear being by far the most flourishing. Over a mile of hedges, commonly Osage orange, Norway spruce, *Arbor vitæ* and privet.

Indian corn, wheat, rye, oats, timothy, red and white clover, and occasionally a little buckwheat, Hungarian grass and tobacco are grown. Of the many vegetables the white potato, tomato, cabbage, onion. string bean, pea, radish, beet, okra, celery, egg plant and pepper, flourish best. A goodly portion being in well kept lawns, the various hardy plants and shrubs are too numerous to mention. The climbing vines such as woodbine, bitter sweet, Virginia creeper, trumpet, etc., are commonly trained about fences, arbors and buildings.

Not many years ago there were little cleared ground that was neglected or uncultivated, but since the advent of the land speculator, in the name of suburban improvement, many small farms aggregating about 130 acres have become idle, unproductive save for pasture, and are slowly drifting back to nature. The grasses, dandelion, buttercup, oxeye daisy, violet, yarrow, and rag weed are being superceded by the goldenrod, wild carrot, milkweed, Spanish needle, shepherd's purse, Canada thistle, wild rose, burdock, poison ivy, red cedar bush, wild strawberry, dewberry, raspberry, and blackberry, all of which must yield in turn to the sassafras, dogwood, wild cherry, shumac, wild grape vine, greenbrier, etc., unless reclaimed in the meantime.

Of the wild animals, native and introduced, the red fox, *Vulpes fulvus*, weasel *Putorius erminea*, skunk *Mephitis mephitica*, brown bat *Vespertilia subulatus*, mole *Scalops aquaticus*, white-footed mouse *Hesperomys leucopus*, meadow mouse *Arvicola ripairus*, house mouse *Mus musculus*, house rat *Mus decumanus*, grey squirrel *Sciurus carolinensis*, flying squirrel *Sciuropterus volucella*, red squirrel *Sciurus hudsonius*, ground squirrel *Tamias striatus*, grey swamp rabbit *Lepus sylvaticus*, and opossum *Didelphia virginianus*, are more or less common; and the mink *Lutorius vison*, raccoon *Procyon lotor*, and muskrat *Fiber zibethicus*, are occasional, and more common a short distance beyond the boundary. The ground hog *Arctomys monax*, so common fifteen years ago, is now well nigh exterminated in the immediate vicinity.

Reptilia is poorly represented in the number of individuals except in the box tortoise, gartersnake and blacksnake. An occasional river tortoise, red terrapin, mud turtle, watersnake, house adder and viper may be found. We have two species of the bull frog, tree frog, toad; and a few fish: striped dace, red-fin, roach and brook trout. Crayfish are common, and a species of land snail plentiful in the woods. Slugs are not uncommon in gardens. Among the woodland spiders, the geometrical is the most prominent.

It would be impossible to give more than a few of the more injurious or most noticeable of the many insects. The black and red ants, sulphur butterfly, tent caterpillar, corn-ear worm, cut worm, tobacco worm, green fruit worms, squash vine borer, apple-tree borer, may beetle, Colorado potato beetle, stink-bug, common and striped squash bugs, click beetle, fruit tree bark borer, plum curculio, dog locust, leather-winged locust, red-legged grasshopper, katydid, black cricket, etc.

1. **American Woodcock** *Philohela minor*. Formerly common both as a transient and a breeder, it is now so uncommon as to be scarcely worth hunting. Not more than a pair can be found here in nesting time, and there are few migrants passing. 2

2. **Killdeer** *Ægialitis vocifera.* Like the above, this is a a decreasing species. Now found only in well watered meadows, in this neighborhood. One pair annually nest near the foot of the hill, in the valley, and just inside my territory. 2

3. **Bobwhite** *Colinus virginianus.* The last covey was exterminated within recent years. A stray cock may be heard nearly every summer, but apparently always mateless. Kansas birds are now being introduced in the valley and are taking to the hills. 1

4. **Mourning Dove** *Zenaidura macroura.* I have not found the Turtle Dove very common in this vicinity. Three pairs noted this year and two pairs in former years. 4

5. **Cooper's Hawk** *Accipiter cooperi.* The Privateer is pretty evenly distributed throughout this section. A pirate always, it takes possession of a Crow's nest well up in hardwood timber. One, sometimes two pairs, nest in the block. 2

6. **Broad-winged Hawk** *Buteo latissimus.* A regular breeder in chosen territory. This tract has seldom been without a pair. Incubation in one instance twenty-four days, and young left nest in about forty-one days. 2

7. **Sparrow Hawk** *Falco sparverius.* For many years a pair occupied the hollow limb of a revolutionary "watch tree," overlooking the valley; an immense chestnut nearly eight feet in diameter at the base ; fire and a great wind storm leveled this giant to the earth one year ago, however, and I have not yet yet located the present nesting site of the birds. 2

8, **Screech Owl** *Megascops asio.* In this section the red phase predominates. Four pairs may be safely given. 8

9. **Yellow-billed Cuckoo** *Coccyzus americanus.* This and its relative, the Black-bill, destroy a great many of the hairy caterpillar pests. From three to six pairs are annually present. 8

10 **Black-billed Cuckoo** *Coccyzus erythrophthalmus.* I have found this species somewhat erratic. Sometimes equaling the above, but within the past few years I am sure of only one pair. 2

11. **Downy Woodpecker** *Dryobates pubescens medianus.* Fairly constant. The flying squirrel frequently uses the deserted nesting cavity of this little bird. Five pairs seem to be the average number nesting. 10

12. **Red-headed Woodpecker** *Melanerpes erythrocephalus.* This is more of a lover of old orchard and heavy grove timber than of our chestnut belt. It is, however, more frequent than ten years ago. One pair may be found in this tract. 2

13 **Flicker** *Colaptes auratus.* From three to six pairs breed annually. Most abundant in the more open country to the south of us. 8

14. **Nighthawk** *Chordeiles virginianus.* Considering it locally, it is perhaps nearly as rare as the Whip-poorwill. I record one pair. 2

15. **Chimney Swift** *Chætura pelagica.* I know of no instance where more than a single pair occupy the same flue for nesting purposes. For the past three years the local contingent numbering as high as fifty or sixty individuals have roosted in one of our chimneys previous to migrating. We have at least sixteen pairs of breeding birds. 32

16. **Ruby-throated Hummingbird** *Trochilus colubris.* I am not sure that as many as four or five pairs do not breed within the given area, but I have positive proof of only two pairs in any one year. 4

17. **Kingbird** *Tyrannus tyrannus.* Present every season but extremely variable. Five pairs found in one year but the normal number is less than half. 4

18. **Crested Flycatcher** *Myiarchus crinitus.* Too noisy to be overlooked, yet secretive enough in domestic affairs. Averages eight pairs. 16

19. **Phœbe** *Sayornis phœbe.* One nest with fresh lining occasionally does triple duty as crib when the bird is not seriously molested. Two pairs occupy separate deserted springhouses, one pair in stone wall of dismantled house, and another pair occupy a stone culvert under railroad; and return yearly to the same places. 8

20. **Wood Pewee** *Contopus virens.* From three to six pairs, more often the latter. 10

21. **Green-crested Flycatcher** *Empidonax virescens.* Regular in its haunts along the thicket-bound streams. Five pairs. 10

22. **Blue Jay** *Cyanocitta cristata.* The three to five pairs not easily passed unnoticed. 8

23. **American Crow** *Corvus americanus.* From four to six pairs annually nest, in late years; probably a greater number in former times. 10

24. **Fish Crow** *Corvus ossifragus.* A late addition to our local avian-fauna. First observed in 1898, and one or two pairs have been found in this tract ever since, nesting in the top of the tallest trees, usually chestnuts. Now common in the neighborhood. 2

25. **Cowbird** *Molothrus ater.* One male and two females have commonly been met with, though doubtless others occasionally invade the block. 3

26. **Meadow Lark** *Sturnella magna.* Seldom absent at any time of the year, though more common on either side of the ridge. During deep snows it will sometimes approach houses and feed upon the berries of the bitter-sweet and woodbine. Four pairs in grass fields. 8

27. **Orchard Oriole** *Icterus spurius.* Averages four pairs in late years. 8

28. **Baltimore Oriole** *Icterus galbula.* The Golden Oriole prefers the drooping branches of the weeping willow as a nesting place and regularly returns to its old haunts. Five to six pairs are found yearly. 10

29. **Purple Grackle** *Quiscalus. quiscula.* For many years a small colony have occupied the evergreen trees about Wynburn Inn. In the spring of 1898 only eight pairs were present, and in the past three years seldom exceeded twenty birds. An outlying pair occupy an apple or sycamore tree, half a mile distant. 22

30. **American Goldfinch** *Astragalinus tristis.* Roving until nearly all other birds have done with domestic affairs, it is very hard to enumerate. Old and young feed almost exclusively for a time on the ripening sunflower seeds grown for the domestic fowls. Six pairs would be well under the limit. 12

31. **Vesper Sparrow** *Poocætes gramineus.* The Grass Finch is less common than formerly. About eight pairs present. 16

32. **Chipping Sparrow** *Spizella socialis.* In the early '80's I found it nesting most numerously in cedar bushes, now it is most frequent about vine-clad piazzas, hedges, fruit and ornamental trees and bushes. The Chippy has suffered much from the small boy and cat. Not quite so abundant as formerly, now averaging about thirty-nine pairs. 78

33. **Field Sparrow** *Spizella pusilla.* Only a very careful enumeration convinced me that this species outnumbered the preceding. It nests more often above than on the ground. Fifty-nine pairs on an average in last three years. 118

34. **Song Sparrow** *Melospiza melodia.* Much like the Field Sparrow in nesting habits, but more domestic. Very abundant as a transient. 44

35. **Towhee** *Pipilo erythrophthalmus.* I should judge, that the fifteen pairs now found in this area, is but half the number nesting up to and including 1898. 30

36. **Cardinal** *Cardinalis cardinalis.* Haunting the greenbrier thickets. 1898 to 1900—three pairs; 1900—two pairs. 4

37. **Indigo Bunting** *Passerina cyanea.* Local station substantially the same as the Blue-winged Warbler. Breeding season frequently extends well into July. Eleven pairs. 22

38. **Scarlet Tanager** *Piranga erythromelas.* Inhabits wood borders, usually near roads or paths. One pair built in my home orchard in 1901. There appears to have been a gradual and substantial increase up to the end of the century. The maximum number for 1900 and 1901 is twenty birds. Taking into consideration the conspicuous plumage of the males, I still believe that they actually exceed the females in number. 20

39. **Purple Martin** *Progne subis.* Two or three pairs located in a box erected by Mr. Washington Harris, in 1889. Seven years later I succeeded in attracting a young pair to quarters prepared for them, and have had a small colony, not exceeding three pairs, ever since. Previous to the above instances, the Martin has been a stranger to the tract, though breeding a few miles away. Much commoner in the Southern portion of the county. 10

40. **Barn Swallow** *Chelidon erythrogaster.* Of the four barns formerly sheltering this bird, one has been demolished, another burned down, and the third closed against it; the fourth is situated in the valley and accommodates about ten pairs. 20

41. **Cepar Waxwing** *Ampelis cedrorum,* Four pairs nesting in shade and fruit trees. 8

42. **Red-eyed Vireo** *Vireo olivaceus.* This tireless singer chiefly inhabits the woods and thickets. A few pairs may always be found nesting in the shade trees about dwellings. The nest is not hard to find after the leaves have fallen and their number justifies my approximation of fifty-five pairs. 110

43. **Warbling Vireo** *Vireo gilvus.* I have noted but eight pairs in any one year hereabout, two pairs in North Berwyn; all found about large maples near dwellings. 4

44. **Yellow-throated Vireo** *Vireo flavifrons.* I have twice discovered the nest and three eggs of a single pair which yearly haunt the larger swampy thicket. 2

45. **White-eyed Vireo** *Vireo noveboracensis.* A pair in either of the swampy thickets. Perhaps not so well represented as it should be. 4

46. **Black and White Warbler** *Mniotilta varia.* So conspicuous as a transient, it is wonderful how invisible it becomes as a housekeeper. It inhabits the rocky hillsides where the trailing arbutus and laurel grow under the trees, and extends down to the damp thickets of the bottomlands. When the young are well along, it is familiar enough. My enumerations were made principally from the singing males, with later family groups as corroborative evidence. Eight to twelve pairs. 20

47. **Worm-eating Warbler** *Helmitherus vermivorus.* Perhaps as common here as anywhere else in the country as a summer resident. It loves the steep wooded hillsides and ravine slopes above the running brooklets, building its nest under a drift of withered leaves which have lodged against a laurel sprout, wild huckberry spray, sapling or a dead stick; though it is only less common on the gentle slopes where conditions are suitable. I know of no other ground-nesting Warbler that gives greater delight to the eye than this trim, slender and graceful little member as it dodges nimbly above and about the fallen leaves, or sits so bravely and defiantly in its snug cave-like dwelling, calmly eyeing the intruder; doubtless trusting to the last minute in the mimicry of self to the surroundings. I have examined over fifty nests and found them all lined with the flower stems of the hair moss, *Polytrichium,* which is a distinctive trait throughout its its breeding range, I believe. For a Warbler, it is a remarkably persistent breeder, and will return year after year to near the same spot, if not too often

disturbed. The nest is often built in three days. The period of incubation in one instance was thirteen days, and the young left the nest on the morning of the tenth day. From fifteen to seventeen pairs noted, 32

48. **Blue-winged Warbler** *Helminthophila pinus.* A common inhabitant of the rather open swampy thickets, upland clearings, neglected pastures and fence rows, building its nest midst the tangle of young saplings, wild grape vines, blackberry and raspberry bushes, in a clump of grass, goldenrod or brier shoots. When the female is sitting close, the male makes little excursions in all directions, singing his locust song. From ten to thirteen pairs were observed. 22

49. **Yellow Warbler** *Dendroica æstiva.* While said to be abundant in some parts of the county, it is here comparatively rare. In the early summer of 1899, I observed a male taking a bath in a spring, and have since found a pair frequenting an upland clearing but they could not be traced to their nest at any time. I think that this section would scarcely yield a single pair to the square mile. 2

50. **Ovenbird** *Seiurus aurocapillus.* From early May until July the loud asserting chant of this Warbler may be heard everywhere until the very woods resounds. It would be folly to attempt anything more than an approximate figure of the number of individuals with less than practically unlimited time and energy. My estimates were obtained by repeatedly visiting every tract of woods at different times of the day, and taking the average as the probable number of breeding birds. The total of forty-one pairs I regard as conservative. 82

51. **Kentucky Warbler** *Geothlypis formosa.* It would seem almost incredible that so keen an ornithologist as Alexander Wilson should have overlooked this bird in Pennsylvania if it had not been uncommon or local at that time. Discovering it in Kentucky and subse-

quently observing it in Tennessee and Louisiana, we do not know that he ever met with it east of the Alleghanies. In 1832 Nuttal quotes Wilson, and adds "The species is scarcely known to the east of North Carolina." Michener's List of Land Birds of Chester County, Penna. (*Agricultural Ornithology, 1863*) "A Southern species and rather scarce," Krider (*Forty Years Field Notes, 1878*) "Considered rare, I have found it in swampy woods, New Jersey, and mountains of Pennsylvania." From 1875 to 1878 we hear of it breeding locally, in New York, New Jersey, Pennsylvania and Ohio. Coues, (1878) "Eastern Province of the United States, especially in the Valley of the Mississippi, north to Connecticut Valley, west to Kansas and the Indian Territory." Maynard (1879) "Quite rare in the Eastern of the Middle States and does not occur in New England at all. The great stronghold appears to be in the West, along the Mississippi river, I have not met with it." During the early '80's the advance was wonderfully rapid; indeed Dr. Coues had confidently predicted its occurrence in New England sooner or later, long ago; while Chamberlain alone appears to have had no suspicion of it, as he says (1891) "It is most abundant along the Mississippi Valley and has been seen but rarely east of the Alleghanies." Locally, Rhoades mentions it breeding in Chester county in 1878 (*Bulletin Nuttal Ornithological Club, Vol. IV, p. 234*) and regarded it as one of the commonest representatives of its family. Eight years later, Jackson reports it a "frequent summer resident, in some localities may almost be said to be common" (*Ornithologist and Oologist. Vol. XII. p. 43*), and in 1889, Norris found it breeding abundantly (*Ibid, Vol. XIV. p. 104*). In this section the increase was enormous up to 1897, when the high water mark was reached and the Kentucky appeared to be about seventh in point of numbers, perhaps more numerous here than any other

part of its habitat. It actually overflowed its accustomed haunts of luxurient undergrowth, the bird associated with the spicewood, swamp cabbage, summer fern, mandrake and wild sarsaparilla, encroached upon the domains of the Ovenbird and the Blue-winged Warbler. The following year it fell to about one-half the preceding high total and yet ranked next to the Ovenbird in the Warbler family. It has since held its own, I can give no reason for the decrease. It is a matter of congratulation that this and other insect destroying species have so greatly multiplied and extended their ranges as to fill in a large measure the gaps made by the destruction of other beneficial species. I record 20, 24 and 21 pairs in the last three years. 42

52. **Maryland Yellowthroat** *Geothlypis trichas*. I have been accustomed to regard this bird as a swamp dweller exclusively until recent years, when I have found it skirting the second growth sprouts and attendant dense vegetation some distance from water. Two types of nests are known to me, the first a frail, thin, grass-built structure ; and the other, high and well built of weed stems, grape-vine bark and dead leaves, lined with fine grass stems or strawberry runners, the cornicopia type. Six to nine pairs. 14

53. **Yellow-breasted Chat** *Icteria virens* Apparently one place is as good as another to the Chat, and it may usually be found more or less common according to the available briers, brambles and cedar brushes; apart from this it is occasionally somewhat uncertain in numbers. The average for the last three years is fourteen pairs. 28

54. **Catbird** *Galescoptes carolinensis*. Found anywhere except in the deep woods. An average of thirty-two pairs. 64

55. **Brown Thrasher** *Harporhynchus rufus*. As a small boy, I remember this bird as a familiar roadside frequenter; then for a number of years it sank to a very

low ebb, I occasionally noted it as tolerably common up to 1893, but not again until 1900, if five pairs in one square mile can be considered so. It builds in hedges, greenbriers and thorn bushes. Its rich song, beautiful form and inoffensive ways should make it an object of special protection. 10

56. **House Wren,** *Troglodytes aedon.* Quite a number of people have complained that they have not seen a Wren for years, while as a matter of fact they have been common enough the past few years at least, though often compelled to resort to the cavities and odd corners of outbuildings for breeding purposes. I have had no trouble to keep a pair about the garden by merely erecting a small box with an inch augur hole for entrance and narrow slits under the eaves to give it ventilation. The English Sparrow cannot get at it. I have found from ten to twelve pairs the last three years. 22

57. **White-breasted Nuthatch,** *Sitta carolinensis.* This square contains a poor representation in the breeding season, common at all other seasons however. One pair. 2

58. **Carolina Chickadee,** *Parus carolinensis.* Present in an old orchard. Common only in the fall and spring. I have never found its nest. 2

59. **Wood Thrush,** *Hylochichla mustelina.* Few birds are more often robbed of their eggs by the boy collector than this species. It is, I think, a little less numerous than formerly. In this neighborhood it is a bird of the woods and thickets exclusively; but like so many of our wood birds, it builds its nest not far from a road or opening. Twenty to twenty-one pairs. 40

60. **American Robin,** *Murula migratoria.* I once counted forty-five nests placed in shade trees on either side of an avenue in the short distance of two squares. Probably not more than two or three nests are built by a single pair in high or protected situations, while as

high as five nests are often required in exposed places. Thirty-seven pairs. 74

61. **Bluebird,** *Sialia sialis.* Abundant up to the fierce blizzard of February, 1895, when it became scarce for the two seasons following. It is again becoming common. The past two years I counted four pairs nesting. 8

62. **European House Sparrow,** *Passer domesticus.* This bird should be classed with the rats, mice and other vermin. I have repeatedly found its great rubbish pile of a nest in situations impossible for any of our native birds. In defence of the Martins, I have shot more than fifty would-be tenants; and have destroyed nest, eggs and young whenever possible to get at them, yet it is our most abundant bird. Approximately we have one hundred and six pairs, and under present conditions it has doubtless reached the limit of abundance. 212

We have a total of 1388 individuals, representing 62 species, which may be divided in the main as follows:

Insectivorous,	48 species.	1091 individuals.
Granivorous,	6 "	255 "
Frugivorous,	1 "	8 "
Carnivorous,	4 "	14 "
Omnivorous,	3 "	20 "

Only two species are positively injurious, the Cooper's Hawk and English Sparrow; and two more are on the doubtful list, the Blue Jay and Cedar Waxwing.

The following species were formerly present in the tract, but are now absent for one reason or another.

1. **Ruffed Grouse,** *Bonasa umbellus.* The last bird inhabiting this tract, was shot in November, 1889, and is now in my collection. Formerly common, but I doubt whether the length and breadth of the South Valley hills could now yield a single specimen. A few are yet to be found on the North Valley hills.

2. **Sharp-shinned Hawk,** *Accipiter velox.* Dr. W. E. Rotzell found a pair nesting In a small cedar grove in 1889. It has not occurred as a breeder since that time. It is rather uncommon as a summer resident in the county, I believe.

3. **Belted King-fisher,** *Ceryle alcyon.* I examined an occupied burrow in an iron ore pit, in 1894, and the birds deserted the spot. It is found sparingly along all streams of fair size.

4. **Whippoorwill,** *Antrostomus vociferus.* Not present as a breeder since 1887. Rather rare in this section for a number of years.

5. **Red-winged Blackbird,** *Agelaius phœniceus.* A few pairs nested in the larger swamp a number of years ago when it was more open. Found commonly in small colonies on either side of the ridge, in suitable places.

6. **Carolina Wren,** *Thryothorus ludivicianus.* One or two present in 1898, and I shot a moulting female early in September. Rather rare in the neighborhood.

Present in the immediate vicinity but nesting without the stated area, are several species as given below.

1. **Great Blue Heron,** *Ardea herodias.* A single bird, usually an immature, may frequently be found haunting the head waters of the Darby creek.

2. **Green Heron,** *Ardea virescens.* A pair in Devon swamp. Rather uncommon in this locality.

3. **Black-crowned Night Heron,** *Nycticorax nycticorax nævius.* Large colony in the valley, within a few miles.

4. **Bartramian Sandpiper,** *Bartramia longicauda.* Present on either side of the ridge but rather rare.

5. **Spotted Sandpiper,** *Actitis macularia.* Found just without the tract. Not uncommon.

6. **Turkey Vulture,** *Cathartes aura.* Often found within my boundaries but does not nest nearer than Paoli and Valley Forge.

7. **Red-tailed Hawk,** *Buteo borealis.* It is a rather curious fact that I have never found this large Hawk breeding on the Valley hills. It is common in the grove timber to the south of us.

8. **American Barn Owl,** *Strix pratincola.* Found in the large timber near the head of Darby creek, a mile from Berwyn. Rather rare.

9. **American Long-eared Owl,** *Asio wilsonianus.* Has been found recently nesting near Paoli and at Valley Forge by Dr. W. E. Hughes, Rare.

10. **Great-horned Owl,** *Bobo virginianus.* The same remarks might be made in regard to this species as to the Red-tailed Hawk. It is rather uncommon.

11. **Hairy Woodpecker,** *Dryobates villosus.* I have found it but once within this tract. Rare in this section.

12. **Grasshopper Sparrow,** *Ammodramus savannarum passerinus.* Found nesting at Daylesford. Not uncommon.

13. **Rough-winged Swallow,** *Stelgidopteryx serripennis.* Present in the valley. Common.

14. **Louisiana Water Thrush,** *Seiurus motacilla.* A pair discovered in 1899, half a mile beyond the limits of the block.

Thus eighty-two of the ninety-odd species breeding in the county are accounted for. The most notable of the missing ones are the Cliff Swallow, and Tufted Titmouse.

Excluding man and certain domestic animals, the greatest destroyers of our feathered friend, appear to be the fox, weasel, red squirrel and black snake; and probably the most critical period of its existence is immediately after it has left the home nest.

We would be better prepared to realize the enormous number of birds in a given area, if we would stop to consider that 1280 individuals to the square mile would mean but a single pair to the acre; certainly a very small force to battle against the destructive rodents, innumerable noxious weeds, and myriad insect life.

Old Series, Vol. XIII. New Series, Vol. VIII, No. 1.

THE WILSON BULLETIN.

No. 34.

Issued Quarterly by the Wilson Ornithological Chapter of the Agassiz Association.

GENERAL NOTES.

EDITED BY FRANK L. BURNS.

Subscription 50 cents a year.

Berwyn, Penna, March, 30, 1901.

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THE WILSON BULLETIN

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